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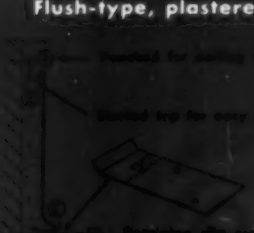

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Above: Kindergarten of the Lafayette School. Here concealed Webster System Radiators deliver heat through top outlet grilles shown in window sills. Air enters below toy shelving.

Left: Webster Walvector under windows in Lafayette School classroom. Air enters below Walvector enclosure, is gently warmed by heating element and passes out through the attractive grilles. Wall-to-wall warmth, no cold spots.

p/a newsletter

The anonymous regular editors of P/A NEWSLETTER announce with great satisfaction that their monthly task has been cut in half. On the other side of this page, we start a regular WASHINGTON PERSPECTIVE by Frederick Gutheim, author, critic, editor, until recently assistant to the Executive Director of the A.I.A. A good part of the news about architecture comes out of Washington these days, and we are delighted to open P/A's pages to the personal reporting and commentary of so informed and perceptive a person at Fritz Gutheim. His books: "Frank Lloyd Wright on Architecture," "Houses for Family Living," "The Potomac," and others, are well known. His friends in Washington are numerous. His opinions are his own and well worth reading. We welcome Fritz to the P/A team.

September 1953

Construction figures tapered off a bit after the midyear. No one doubts that they will pick up again, but after six months of record-breaking totals, some categories began to dip below last year's figures. Private house building sagged considerably; the builders blamed it all on "tough mortgage money"; some observers saw a stiffening consumer attitude and a more critical appraisal of house values offered. Undefined government attitude on housing has not helped; HHFA Administrator Cole is still holding series of "shirtsleeve" conferences to determine Administration policies.

Fulbright Awards are still being made to architects and planners, for study abroad. News comes, for instance, that Donald Kreibel, of Smith, Hinchman & Grylls, Inc., in Detroit, will study City Planning at Liverpool University under such a grant.

Architectural League announces two awards: Birch Burdette Long Prize for architectural rendering to T. Trip Russell, of Miami; Howard Myers Award for distinguished writing on architecture to Lewis Mumford.

Government specifications are issued by many Federal bureaus. Here is where to get some of most-referred-to items; Federal specs, from General Services Administration Offices, locally or Regional Office No. 3, 7th and D Sts., N.W., Washington 25, D.C.; Navy specs, from Bureau of Supplies and Accounts, Navy Dept., Washington 25, Air Force specs, from Wright Development Center, Att. WCXDP1, Wright-Patterson Air Force Base, Dayton, Ohio; Army specs, from Army supply installations throughout the U. S.

Add U. of Florida to schools now giving full graduate work in planning. Broadened program leading to M.S. degree in City Planning will be administered by an interdepartmental faculty.

New York may get some new theaters, after many years. City Council has passed 22 new laws amending Building Code to permit theaters in multistory buildings, and to allow bars in theaters. Architects and realtors have been arguing for some time that these moves would result in much new and progressive amusement-house planning.

Looking ahead—way ahead—future business prospects seem good in the United States for architects, at least so far as unfulfilled needs go. Take educational buildings, for instance: present birth rates are up, although marriage rates have fallen recently; educational standards are rising and can go even higher; 80% of American children now enter high school. In 1920, according to a National Planning Association report, only 2.6% of the 22-year olds in the U.S. were college graduates; in 1952 the figure was 11.7%. This year some 300,000 graduates will leave the colleges; by 1970 the number should be 600,000 by present trends, and some experts feel that a much higher ratio may obtain by that time.

Turn page for WASHINGTON PERSPECTIVE

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newsletter

Frederick Gutheim

Washington Perspective

It is hard to imagine a worse session of Congress than the one just closing, with regard to the legislators' work in the building field. The "meat axe" economy strokes of the House Appropriations Committee, tempered fortunately in some cases by the Senate, have cut back many Federal building programs and left others bare stumps in a blackened field. Certainly, the prime casualty is the public housing program, all extinguished except for a flickering light. The demise of the housing research program is especially lamentable. Hardly less disastrous were the cuts in the Public Building Administration's architectural staff. Lacking a building program for several years now, PBA's design staff had been pruned to stand-by proportions; now it is unlikely to be able to handle even the normal load of repair work and alterations. The Federally-aided hospital program, the only one to enlist active support of architects, took considerably less of a beating. Nor have new building programs that might have appealed to an economy-minded Administration fared much better. The proposal for a 20-year leasing of the product of private building, calculated to stimulate a hugh volume of privately financed buildings for government offices (now paying fancy rents for quarters that seldom meet their needs), got the cold shoulder.

There has been grumbling, as expected, from injured interests as the Eisenhower Administration has thus laid about it in the administrative jungles of Washington. More important, to a lot more architects, than anything Congress has done to any particular building program, is the growing belief that the balance of the entire economy will be affected, if building activity as a whole is curtailed. How to curb inflation without promoting deflation continues to be a major problem in Washington. And no one can be surprised if the simon-pure textbook ideas of a free-market economy become adulterated with politics and, on occasion, with sheer bluff. Re-rigging the interest rate on government-insured mortgages, is a case in point. Having placated the mortgage bankers by giving them a boost of a half of one percent, the moans and groans of the builders were soon silenced with the aid of lower down-payments on houses. Now everybody's happy and the builders are continuing to produce and sell their product. How long this will continue will depend a lot more on over-all factors in the economy—notably war or peace—than upon any specific actions.

The ease with which construction can be postponed by lawmakers intent upon paring government expenditures has particularly unfair consequences to building. What happens when this shortsighted view prevails is usually not immediately apparent. If government counted the wastes due to bad building (or no building) as carefully as a progressive private business does, we would have a real building boom.

While Congress was laying rough hands on his agency's public housing program, Housing & Home Finance Agency's new administrator, Albert M. Cole, was busy making a good impression upon nearly everyone with whom he came in contact. After the excessive circumspection of Raymond M. Foley, Cole's candor and intelligence are a refreshing change. Beginning with his early appearance at a Massachusetts Institute of Technology conference, and a significant talk before the New York realtors at their annual Bolton Landing shindig, Cole warmed to his task of winning friends at a series of so-called "shirt-sleeves" conferences on the various programs his agency administers. It is still difficult to see what these will amount to. Some pruning of HHFA functions seems inevitable, and rethinking for both the public housing and urban redevelopment programs is long overdue. Subsidy formulas to fit Depression decades are now worn thin. Construction standards of public housing today are excessive, and costs seem monstrous when compared to the prices the private builder gets for his product. Urban policy and the land question are part of this comparison, of course, but the Devil takes the hindmost—and in this case it's the building on high-priced central sites. Perhaps, this time around, the thinkers will decide that maybe we ought to build public housing on vacant raw land, with lightweight construction, and forget about slum clearance until some of the inflated values are squeezed out of central sites.

The redevelopment program has troubles of its own. Tied to housing, it has had little chance to show what else its powers of land assembly and a 50% subsidy can do. Coleman Woodbury's monumental study has already shown—and Miles Colean's forthcoming analysis of the redevelopment program should make even clearer—the need for a broader approach to redevelopment. Such projects ought to be fitted more carefully into metropolitan regional plans, and exercise a positive beneficial effect upon our waning cities. Before this can happen, we will have to get rid of the provision in the present housing act which stipulates (to paraphrase) that "either you have to start wih a slum or wind up with one." More redevelopment projects will have to be admitted that contribute to aspects of municipal well-being: such as smooth-flowing traffic, ample parking areas, abundant parks and open spaces, and schools in central areas with sites almost as spacious as those in the suburbs. If we are going to persuade families to live in the central areas of our cities, the areas themselves (not just housing projects in central areas) will have to be looser and greener than they are on today's city plans. Cities have to compete with their suburbs. Redevelopment subsidies are the cost of the action programs that will correct past city-planning mistakes—and they must be applied on a scale that few city planners are yet willing to acknowledge.

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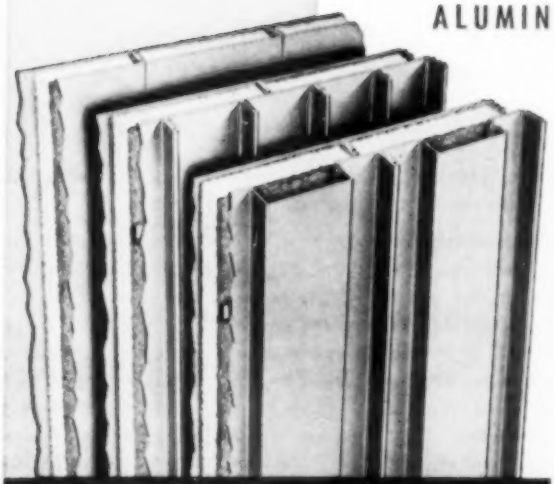

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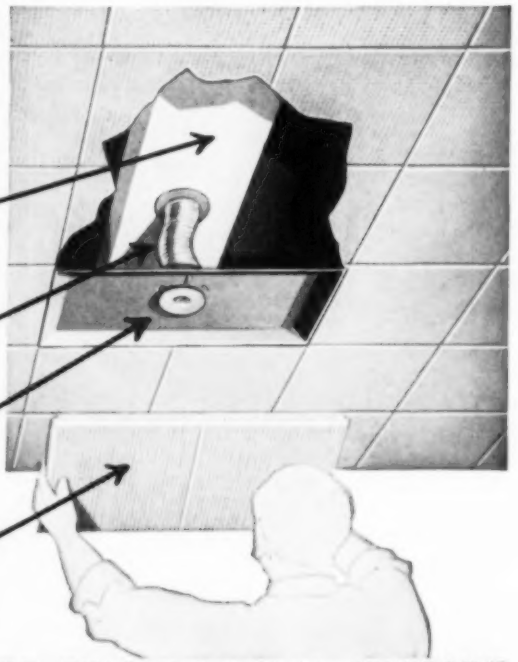

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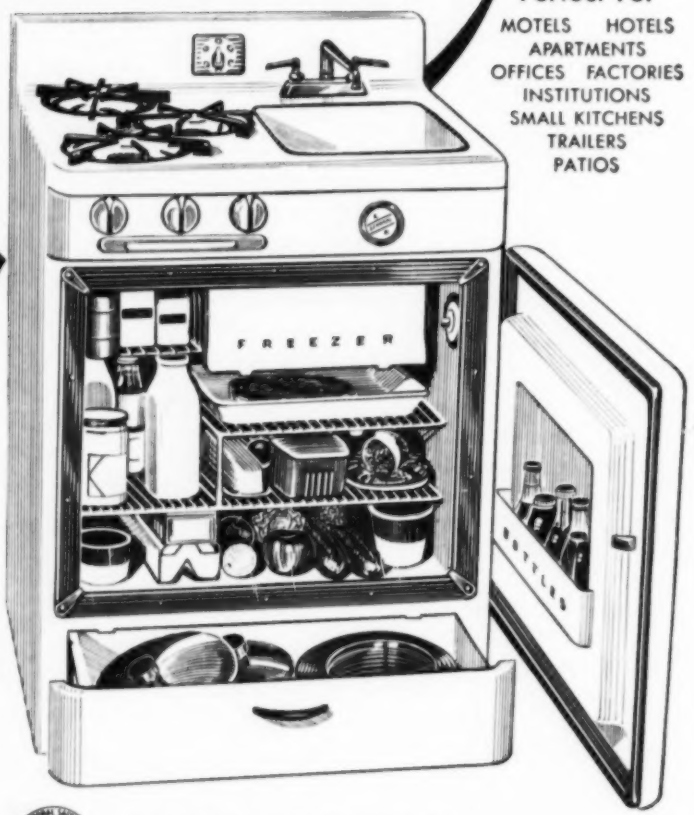

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significant and newsworthy

Dear Editor: The selection of the Darien (Connecticut) Junior High School was a most appropriate choice for publication in the July 1953 P/A. That the Building Committee selected "a firm that though distinguished in other fields, had never designed a school," is a most significant and newsworthy item. That the firm of Ketchum, Giná & Sharp should design such an excellent school was no surprise to anyone familiar with the reputation of that firm. That they had never designed a school is a matter that probably would seem thoroughly inconsequential to most architects and it is happily surprising that the Building Committee was not influenced by this fact either.

From my own personal observations, there are Building Committees in this area that appear to make few or no inquiries regarding the capabilities of the architectural firm considered, but show interest only in the fee; and if the firm has already "done" a building of the proposed type (regardless of whether it was any good) in their frantic search for a "specialist."

It is apparently the prevailing belief of laymen in this locality that an architect is incapable of designing a building unless he has previously designed one of the same type. How the first architect ever began his practice here is still a mystery! Any architect knows that many of the leading firms in the country engage in a wide variety of work. The laymen probably will never be able to understand, however, that the practice of architecture is specialized enough in itself, and that the architect who has the greatest knowledge of building design and construction will probably produce the best plans for any kind of building, regardless of whether he had built one of this type previously. I do not know how many little Parthenons Ictinus and Callicrates had to build before the Athens Building Committee gave them their big commission, but I feel reasonably certain that prior to submitting his magnificent competition drawing for the Tribune Tower, Eliel Saarinen not only had never built a skyscraper, but probably had not even seen one. If every doctor had to have an operation to his credit before he could perform surgery, many of today's brain surgeons would probably be working in filling stations.

It is to be hoped that the attitude of the Building Committee of Darien, Connecticut in their selection of an architect may indicate a trend in the Layman's outlook which we hope will spread to other parts of the country, especially this part.

JOSEPH WILLARD WELLS
King & Wells, Architect-Engineer
Norfolk, Va.

a Soviet "phrop"

Dear Editor: Your article on the architecture of contemporary Soviet Russia is an interesting excursion into the labyrinthine beartrap of the Soviet Dialectic.

Instead of a serious analysis of the Soviet architectural philosophy I found your article helpful rather in adding to the collection of phrops recently partially catalogued by the British sports editor, Sir Arnold Lunn. Sir Arnold defines a phrop as a phrase that says the direct opposite from what it means, such as "I'd rather be right that President," or, "It's not the money I'm interested in but the principle." Vlassovs adds to this collection with, "Soviet architecture is designed to the needs and desires of the people," and, "In the Soviet Union the people have the deciding word," or, "We are deeply touched by the Greek architecture, *since Greece was one of the first democracies.*" (Italics are mine.)

Let's discuss some other time whether we as American architects have lost touch with the desires of the people, that our technology follows a preconceived esthetic, and that we ignore the examples of history; after we have removed these questions from the Soviet frame of reference.

HENRY L. KAMPHOEFNER, Dean
North Carolina State College
Raleigh, N. C.

enjoy new column

Dear Editor: We really enjoy your SPEC SMALL TALK column. The informal and attractively humorous treatment of the subjects provides a too-short but delightful reading rpeiod.

EMMET L. GREENE
Specifications Department
Albert Kahn
Detroit, Mich.

original and far-sighted

Dear Editor: Because of the large number of handicapped persons who come to the Institute of Physical Medicine and Rehabilitation seeking advice and guidance on problems of all types, we have read with interest the article, "Planning for the Handicapped," which appeared in April 1953 P/A. We believe this is one of the most original and far-sighted approaches to the housing needs of the disabled individual that has yet been conceived. It confirms a realistic viewpoint of the unnecessary limitations imposed by previous, and some present, thinking of architectural design in regard to the necessities of everyday living.

We would like, however, to call your attention to the fact that when the handicapped individual lives in a home that has been so individually designed for his needs, it limits rather than increases his potentials for adjusting to situations outside the home. Certainly the elimination of excess effort and time required in the performance of the activities of daily living is desirable for both the handicapped and the so-called "normal" individual. The objective, we believe, should be improvements which accommodate both the disabled and the nondisabled person so that integration of living rather than isolation can be achieved.

Some of the activities designated by the designer of this home as "nontherapeutic" are actually "therapeutic." Regular exercise and activity for the handicapped person is an essential. It is therefore im-

(Continued on page 10)

p/a views

(Continued from page 9)

portant that a home for a handicapped person be designed to require a certain amount of activity. We would also call your attention to the fact that the modern wheel chair is not bulky and is easily maneuvered, nor do Canadian crutches require poor posture when properly fitted, nor are they dangerous when used only where advisable. A secretarial chair which does not support the feet could be just as dangerous. A leg could easily be caught in such position as to cause a fracture.

Despite these criticisms, we believe, on the basis of our experience, that this architect's planning has many dynamic approaches that should be reflected in future thinking and designing in all architecture but not specifically or solely for the person with a physical disability.

HOWARD A. RUSK, M.D., Director
Institute of Physical
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aids—not substitutes

Dear Editor: I have received from Irwin Luckman a reprint of an article, "Planning for the Handicapped," which appeared in April 1953 P/A.

Although I am not qualified to pass judgment upon architectural details, I am distinctly interested in the development of especially designed housing and housing equipment for handicapped persons, more particularly, of course, for paraplegics and quadriplegics, because they are the patients with whom I am personally concerned. It seems to me that some of Luckman's ideas are not only original but possibly deserving of more extensive trial by actual use. At any event, they are stimulating and your encouragement of this type of work is certain to be gratifying to those of us who are concerned with the rehabilitation of the disabled.

There is only one note of caution which I think should be struck at this time; that is, that the various devices which are designed to help the disabled individual must not be such as to substitute for his own efforts but, rather, only to supplement those efforts in so far as they are curtailed by his disability.

I should very much appreciate receiving from you reprints of any further material of this nature. H. S. TALBOT, M.D.
Chief, Paraplegia Service
Cushing Veterans Administration
Hospital
Framingham, Mass.

remarkable achievement

Dear Editor: I have read with great interest the article entitled, "Planning for the Handicapped" by Irwin Luckman which appeared in the April 1953 P/A.

(Continued on page 12)

"Confidence in Steelbilt,
based on experience, played
an important part in my conception
for the 1953 Case Study House."

Craig Ellwood

This is the fourth time Steelbilt
frames for horizontal sliding glass
doorwalls and windows have been
Merit Specified in the Arts & Architecture
Case Study House program.

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Steelbilt will gladly mail a
16-page editorial presentation
of the 1953 Case Study House
reprinted from the magazine
Arts & Architecture
Please write for it

p/a views

(Continued from page 10)

It was very encouraging to me as a specialist in rehabilitation of the disabled to have become aware of the positive contribution that can be made by the architecture. The ingenuity of design of this house for a paraplegic, who incidentally was under my care for his rehabilitation, has solved many difficult day-to-day problems that are met as a rule in the ordinary home. The ease with which he can get from bed to bathroom without danger of hurting himself, and the ease of access of clothing and desk and books, is a remarkable achievement.

I was particularly interested in the concern of the architect for therapeutic activity on the part of the paraplegic, which was effectively stimulated by the design of the parallel bars at various heights. This provided security and also the incentive to the handicapped person to exercise and be on his feet. In this way, the design of the house itself has insured not only the safety but also the physical well-being and strength of the paraplegic in the future.

I believe that further work along these lines for the specific needs of individual cases can contribute a great deal to the welfare of this large group of individuals with special needs. In this way, architecture can be a useful ally of medicine in the rehabilitation of the disabled.

HERMAN KABAT, M.D.
Medical Director
Kabat-Kaiser Institute
Vallejo, Calif.

•

trying to progress

Dear Editor: Your answer to Elizabeth Gordon (P.S., May 1953 P/A) is excellent and adequate.

The most significant thought that comes to mind is the fact that architects who are trying to make some measure of progress have enough to contend with—without defending themselves against the diatribes of Architectural McCarthyism.

A. L. AYDELOTT
A. L. Aydelott & Associates
Memphis, Tenn.

more or less?

Dear Editor: I was terribly upset reading your letter in the form of a Post Scriptum of the May 1953 P/A. Since then I keep saying to myself: More or Less? that is the question.

STAMO PAPADAKI
New York, N. Y.

P.S. A psychiatrist probably will have to look up Mark Twain for the answer.

architect's reaction

Dear Editor: My belated thanks and appreciation for your clear thinking and direct statements in the May 1953 P/A—

(Continued on page 28)

Architects: E. H. and M. K. Hunter, Hanover, N. H.

ADDED APPEAL AT LESS COST

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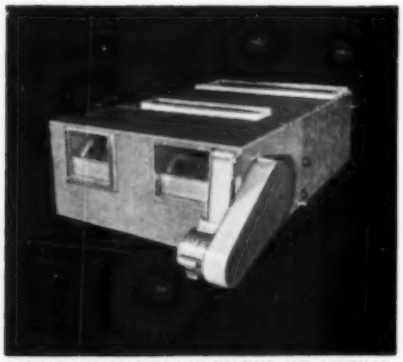
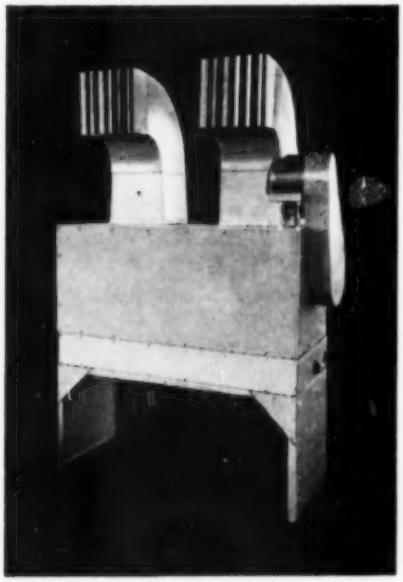
CABOT'S STAINS



HERMAN NELSON TYPE "B" HEATING AND VENTILATING UNIT. This new model features: low outlet velocities—slow fan speeds—a wide selection of heating coils—available with humidifier—and is ideal for institutional and commercial uses.



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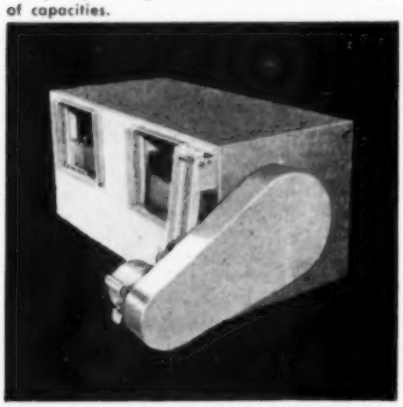

HERMAN NELSON TYPE "Y" VENTILATING UNIT. This new model features one, two or three fans on a common shaft and housed in compact cabinet for straight-line air movement. Especially useful for booster work in ducts—for untempered air supply or exhaust.

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SECTIONALIZED CONSTRUCTION — all units are constructed for easy installation. Cabinet arrangements can be readily changed on the job site if conditions make this necessary.

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The new line is quality constructed throughout by a company with a long established reputation in the heating and air handling field. Member of the N.A.F.M. and I.U.H.A. and all units tested and rated according to the respective codes.

for complete information — on these new models — write: HEATING AND VENTILATING DEPARTMENT, AMERICAN AIR FILTER COMPANY, INC., LOUISVILLE 8, KY.

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COMPANY, INC.
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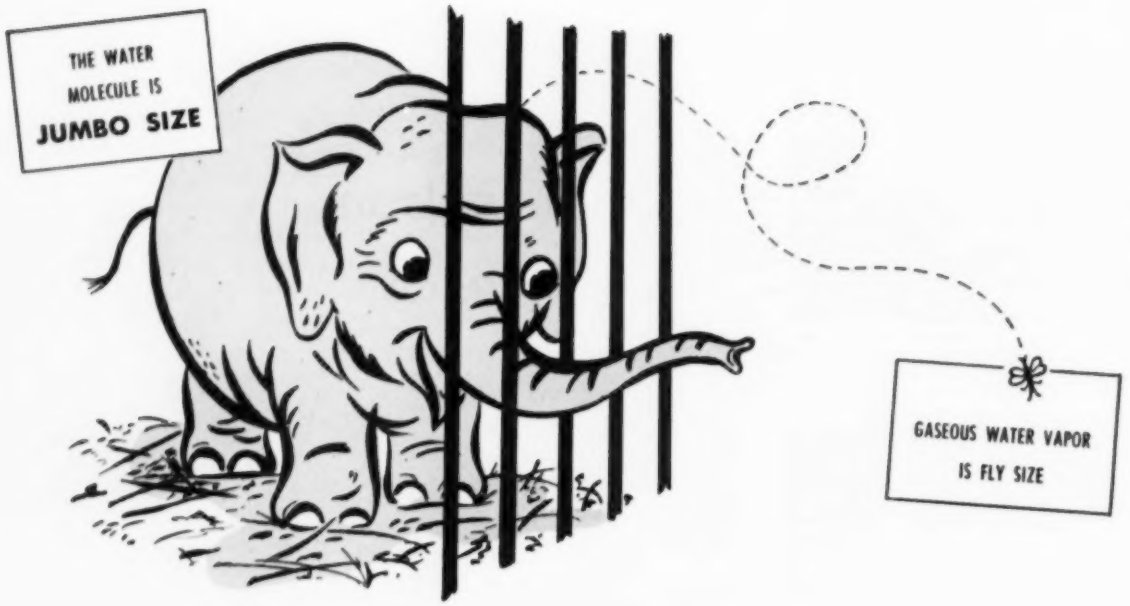
AAF
herman nelson



The Barrier That Keeps Out Elephants Will Let In Flies

Vapor and condensation insulation is needed in buildings as well as thermal insulation. Inadequate thermal insulation means loss of comfort, larger fuel bills, unnecessarily costly heating or air-conditioning plants. Condensation promoted by faulty vapor insulation can cause structural damage – rotting timbers, peeling paint, crumbling plaster, deteriorating masonry.

Water at 32°F has 205,000 times the density of water vapor, which is a gas. Many non-metallic "vapor barriers" are good waterproofing materials, but water vapor can flow through. The thick aluminum sheets used in multiple accordion aluminum are impervious to vapor.

Multiple accordion aluminum creates an "insulating blanket" of layers of air, fiber and aluminum. Of all heat transferred through structural spaces, 50% to 80% is by Radiation; all but 5% to 7% of the rest is Convection. Multiple accordion aluminum has a reflectivity of 97% for Radiation or radiant heat, and blocks outer and inner Convection. Its slight mass, with alternating layers of entrapped air, minimizes Conduction.

It is practically non-condensation forming. It does not sustain nor retain fortuitous moisture, which gradually flows out in the form of vapor through the usual exterior walls and roofs, which are much more permeable than this insulation.

There is now a new standard Infra Insulation (the commercial form of multiple accordion aluminum) improved to form a "blanket" of **uniform** depth between studs and joists which completely covers the spaces between.

Samples of the new Infra Insulation and a copy of Schwartz's "Simplified Physics of Vapor and Thermal Insulation" sent on request.

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Please send me sample of New Infra Insulation ☐
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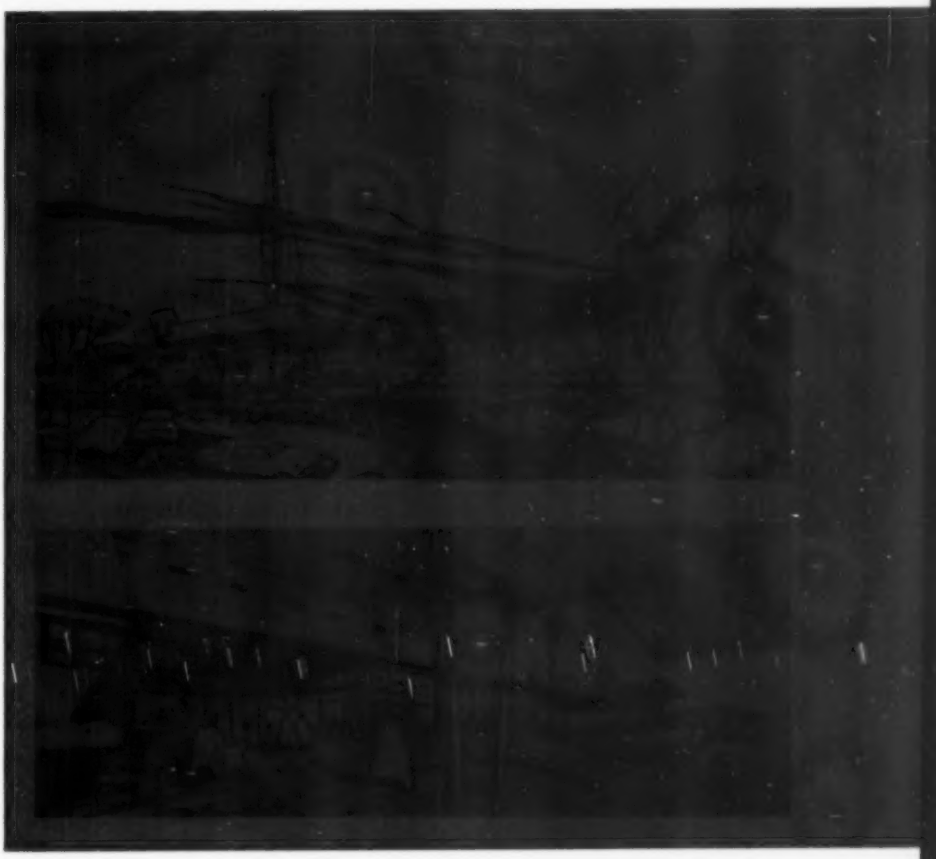
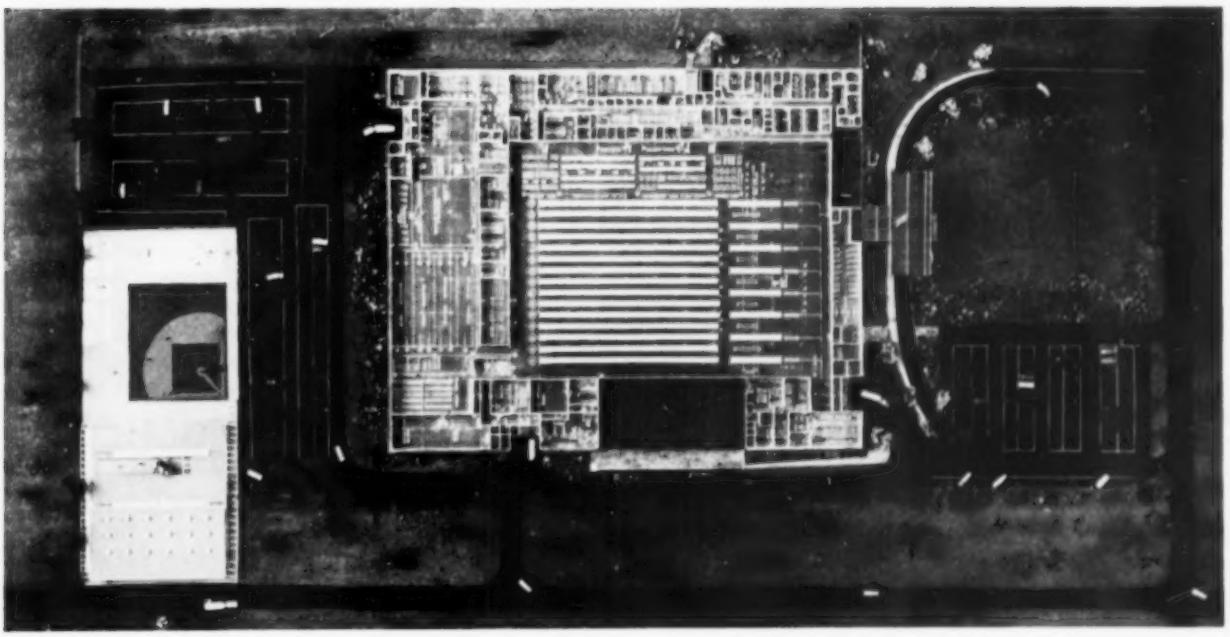
electronics equipment factory

Under construction in Bloomington, Indiana, is this 250,000-sq-ft assembly plant, for which Architects Associated of New York (Katz-Waisman-Blumenkranz-Stein-Weber) were Architectural Consultants. The client is Sarkes Tarzian, whose Station WT-TV there has already attracted attention in the TV industry as a minimum-budget (under $500,000) achievement. The exterior of the plant *(right)* has been completed and the interior is being finished, with some departments already in operation.

Tarzian's program for this plant emphasized model working conditions, exceptionally complete amenities for the employes (most of them women), and a low-cost construction system. In plan *(model below)* the plant comprises three related areas: the factory departments in which 3500 persons will be employed; the spacious cafeteria-recreation room *(dark rectangle in plan)* opening on a tree shaded terrace; and the nursery school for younger children of the employed mothers, separated from the main building by the larger parking lot.

The factory. The production line of this TV tuner assembly plant is from the receiving door at rear, facing the larger parking lot; through inspection and storage areas; through metal-punching process rooms to





Interior view of cafeteria-recreation room shows hung ceiling beneath Quonset forms of roof, incandescent-light troughs, glass wall opening to terrace.

the 15 parallel work tables in center where TV sets are assembled, repaired as needed, tested, and packed (checking and repair rooms located along east side of main factory room); finally to the packing and shipping room located beside the main entrance on south front. Customers, executives, clerical and factory employes all use the main entrance—a special provision requested by Tarzian. The business and administrative offices are along the east wall of the main building.

The cafeteria-recreation room. This large area with adjacent terrace can readily be converted to a meeting hall, a movie theater *(as in sketch above)*, or an attractive place for social events.

The nursery school. Apart from the main building is the nursery school, with its enclosed play court, separated by the larger parking area from the factory activities. As many of the employes are working mothers, they bring their children of preschool age with them when they arrive at 7:00 a.m. The work day ends at 3:00 p.m. so that the women can return to domestic duties.

As one of the principal points of the planning program was to make working convenient for the employes—and to keep them satisfied with the jobs—efforts were made to convey a sense of the employe's importance. One refinement is a private corridor by which employes have ready access to the office of Mrs. Tarzian, who is a consulting psychologist, so that they can privately report or discuss grievances and personal problems.

The use of a symbolic TV antenna as a support for the entrance canopy is in the category of "advertising architecture." Primary curb on the designers was a demand for minimum cost of structure. A Stran-Steel system was chosen and the fabrication of the structure was carefully studied in the earliest design stage.

EXTERIOR

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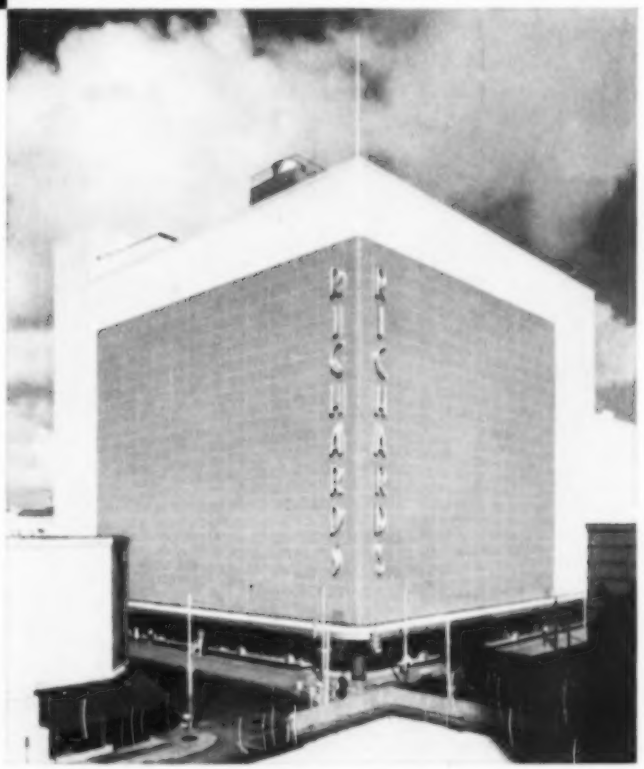

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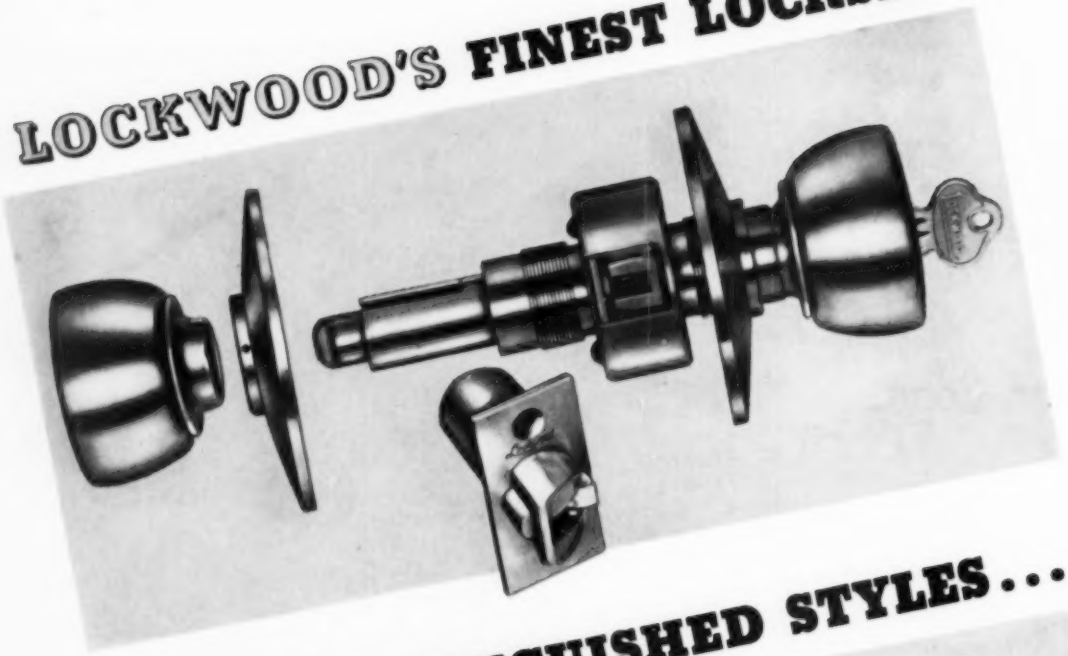

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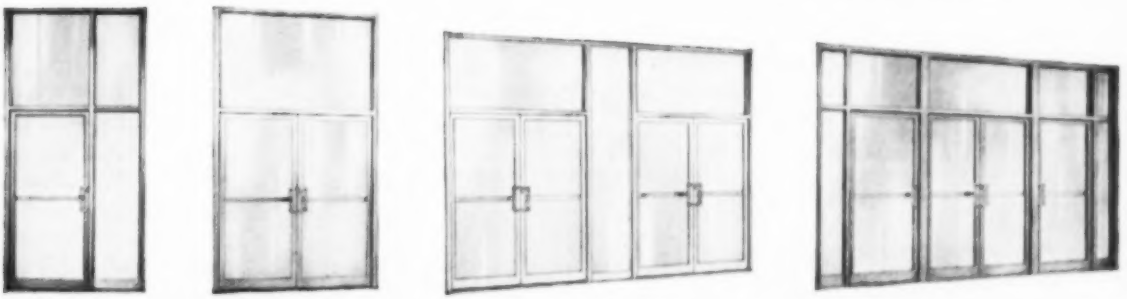

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p/a views

(Continued from page 12)

P.S. How Miss Gordon established herself as Dictator of Taste or what started *House Beautiful's* editorial hate campaign, I do not know; but I am grateful to you and P/A for your answer. I only regret that many laymen who will read Miss Gordon's article will never see your answer. I am wondering if Miss Gordon is going to be democratic and print the reaction of the architectural profession to her campaign.

CHARLES GRANGER
Austin 1, Texas

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criticism vs. dictatorship

Dear Editor: I was most heartened by your direct and rational answer to Elizabeth Gordon's hysterical nonsense (*House Beautiful* for April, 1953). A great many of us feel that the architects of today could well stand a sincere, constructive analysis and would benefit highly from a research program based on this kind of approach. However, I think many of us feel that Miss Gordon's remarks are not contributing anything to rational progress. I am disappointed that many people who are justifiably in favor of criticism at the same time *ignore* the dictatorial nature of her approach to the subject.

Possibly we can all benefit indirectly from this attack by performing the analysis that should clarify current ideas and possibly give new directions. And finally, I feel we should all continue to protest such attacks on our freedom.

You will shortly receive a copy of a mass signed protest of Bay Regionites, many of whom Miss Gordon has published.

JOHN CARDEN CAMPBELL
Campbell & Wong
San Francisco, Calif.

•

(*The following is published by request*)
Dear Miss Gordon: In view of the articles in your April and ensuing issues regarding American architecture, the undersigned wish to state this:

1. We disagree with the implication contained in the articles on architecture that the work of the architects and artists criticized is "subversive," preparing our minds for totalitarianism, or in any way is intended to undermine American freedom. The motives and sincerity of the architects and artists in question, we feel, are above reproach.

2. We strongly protest any evaluation, of art works, based on political criteria. We believe that a free art has room for all means of expression, that every artist has the right to express his art in his own way, within the bounds of public health and safety.

3. Recognizing the healthy condition of American art, we nevertheless welcome and place great value on the contributions to art and architecture by other countries. We therefore regret deeply the attack on European art and architecture of the past

(Continued on page 22)

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p/a views

(Continued from page 20)

half century. The implication that all "good" art has its roots in America and all that is European is subversive, perverted, or sick, is misleading and untrue.

4. We also recognize your right to criticize art in any of its means of expression. But the right of criticism carries with it the responsibility of being fair and reasonable. The questioning of political motives, and therefore the sincerity of the architects in question, does not provide a valid argument for your point of view, nor does slander by innuendo constitute fairness or reasonableness.

Signed by:

JOHN CARDEN CAMPBELL — DAVID R. MAYES
MORLEY K. WONG — JOHN W. KRUSE
JOHN W. STALEY, JR. — ASA HANAMOTO
THEODORE OSMUNDSON, JR. — REX W. ALLEN
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KATHRYN STEDMAN — ROGER LEE
GEORGE T. ROCKRISE — H. L. VAUGHAN
MARGARET ROCKRISE — HENRY HILL
ESTHER BORN — ALBERT SIGAL

what respect?

Dear Editor: What respect could the public have for the medical profession or what confidence could it have in its members if the Doctors scourged each other in national publications—each charging the others with malpractice or accusing them of filching methods for treatment?

What respect could the public have for the legal profession or what confidence could it have in its members if the lawyers scourged each other in national publications—each accusing the others of plagiarizing or ridiculing their plea before the court?

Are we Architects practising a profession or are we members of jealous unethical cliques for the purpose of merchandising building constructions and foisting upon the public our little selves—and don't we know that we too will pass?

Too much of the publicity concerning Architects and Architecture these days causes me to wonder:

1. *Where is the Client?*
2. *What is an Architect?*
3. *And who is God?*

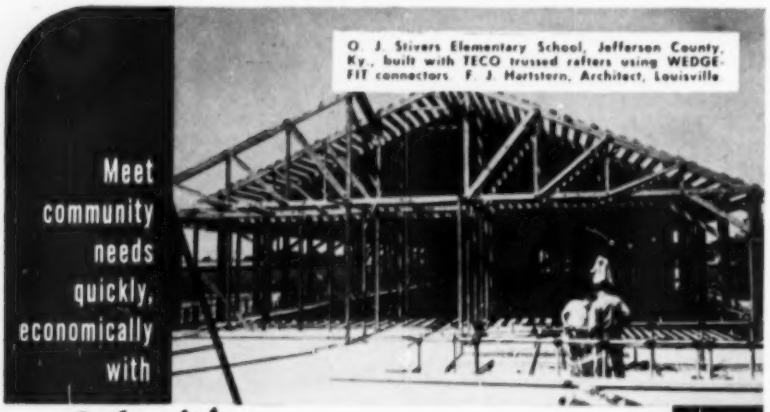
JOHN LLOYD WRIGHT
Del Mar, Calif.

•

letter to the schoolmaster

Dear Carl: P/A 7 arrived today. Your piece is excellent and very encouraging to me—in that it supports my intentions for Harvard. REGINALD ISAACS
Chicago, Ill.

(Continued on page 24)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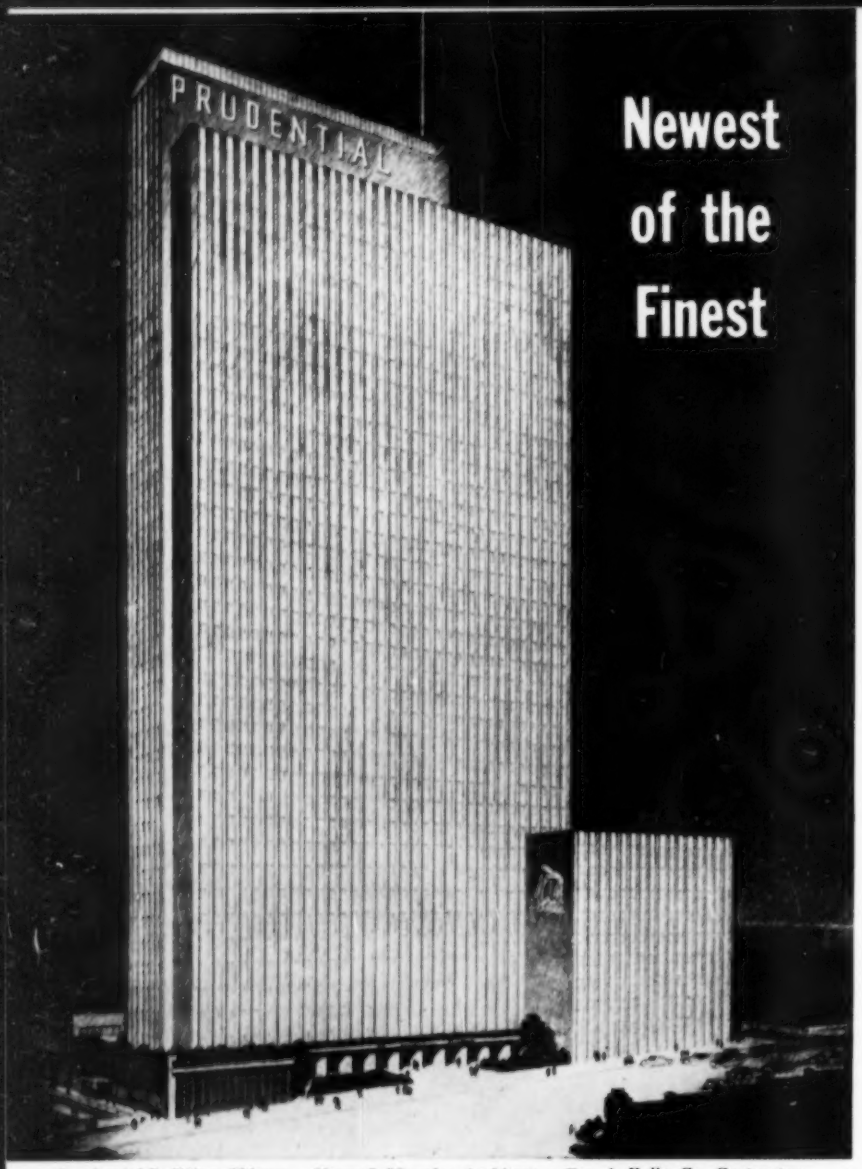

Newest of the Finest

Prudential Building, Chicago • Naess & Murphy, Architects • Geo. A. Fuller Co., Contractors

The new Prudential Building will soon rise 600 feet above the shore of Lake Michigan, and become a distinguished addition to Chicago's skyline. This mid-America headquarters of the Prudential Life Insurance Company will contain more office space than any other building in America's second largest city.

As a building, it will take its place among our country's finest structures and is a perfect example of the features a well-informed investor is willing to put into the space he plans to use and rent. For instance, to prevent future obsolescence and to meet the increasing requirements of modern electronic office equipment, architects Naess & Murphy have prepared the new Prudential Building to handle the highest electrical load of any office building yet built. To do this job easily, and to permit layout changes and additions at minimum cost, Robertson Q-Floor construction is being used. This strong, light-weight, steel, cellular structural floor is the only construction material available which provides easy electrical access over every 6-inch area of the entire exposed floor. For more good reasons why fine new buildings all over America have turned to Robertson Q-Floor construction, see the opposite page.

Robertson

Q-Floor

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2405 Farmers Bank Building • Pittsburgh 22, Pa.

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p/a views

(Continued from page 22)

letters to the schoolmaster

Dear Carl: I enjoyed your OUT OF SCHOOL column in November 1952 P/A very much, but would have enjoyed it much more had I not been subconsciously searching, during my reading, for a citation that just *had* to be there but wasn't —the name and record of Louis Sullivan.

How can you write about the necessity of wedding art and architecture and not mention one of the foremost exponents of your thoughts, especially since Sullivan bore so much criticism from critics, who couldn't understand how an architect who insisted that form must follow function also insisted on prolific adornment.

Recently, while I was reading Mumford's *Roots of Contemporary Architecture*, I came across a couple of passages by Dankmar Adler:

"What I have written is intended to be a protest against the dogma that art in architecture ended with the Renaissance, a denial of the assumption that the use of materials and processes and wants and functions unknown to the Masters who flourished in that glorious period or to their predecessors in other eras of great artistic vigor in architecture is incompatible with the performance of truly artistic work . . .

"Steel pillars and steel beams occupy so little space that in order to enclose structures of which they are the essential supporting parts, they must be furnished with a filling if a space-enclosing structure is to be erected, and steel posts and beams, to be adequately protected against possible attacks of fire, must receive bulky fire protective coverings. In these fillings and covering we obtain media for artistic treatment which may be handled solely with reference to the desire to adapt 'form' to 'function'."

As a native Chicagoan who has enjoyed many a lunch hour in visiting Adler and Sullivan masterpieces, I have found Mumford's new book positively fascinating.

SYD KASPER
Washington, D. C.

Touché, Syd, regarding Sullivan! I've cited him before, but the least I could have done is mention him again, and

(Continued on page 25)

p/a views

(Continued from page 24)

certainly in the context of the November column. It's a long time back, but what I remember trying to do was to avoid the old pit into which so many writers on art and architecture fall. I wanted, just for once, to avoid running the gamut of all the great names, their forebears, and their descendants. I despise that kind of filler to an article. On the other hand, you are right—to talk art and architecture and leave out Sullivan was an error of judgment. And as I reread the article I could see why you reprimanded me.

•

Dear Carl: Just a line to tell you that I enjoyed very much your article on Cranbrook. To one of the group which followed immediately after yours, it brought back a great longing for the "Good ole days," 1933-35. We had a great bunch of people and we really tore into our work. With no compulsion I worked harder and longer, thought more, was more relaxed, got more out of life, and of course Cranbrook, than I did out of the six years I went to collegiate schools of architecture. Of course, by that time I was able to really get something from Saarinen that I could not have understood before. But I always marveled at the way he got the idea over even to some very immature people we had around.

To me he will always be the greatest teacher of my life and I think one of the greatest who has ever lived. And I worked under quite a few, including Carlu. What he gave us was more than architecture or the appreciation of it; it was also how to live. Even if it was too idealistic for most of us to follow, after leaving we still have that as our great ideal and the goal toward which we will always work.

Also, there was nothing impractical about those ideals, as almost every one I have ever known who spent time around Saarinen has gone out and fought bare-knuckled in the ring of private practice with the best of them: something a lot of other great idealists whom we all know of cannot say. It was a great experience, why don't you write some more about it? BILL KAESER

Madison, Wis.

Why the Finest New Buildings Have Q-Floor

Beyond the fact that Q-Floor offers the greatest electrical availability of any structural floor in existence (as indicated in the above illustration), there are several other vital reasons why it has become a part of the finest new buildings in America.

Q-Floor saves construction time and money. The steel cellular units come on the job cut to fit so that two men can lay 50 square feet in one minute. In the case of the U. S. Steel-Mellon Bank Building in Pittsburgh, forty floors were installed in four months. Because Q-Floor provides a perfect platform for work and storage, 1,000 men were able to operate on the job without interfering with each other. Q-Floor saves steel as a result of its favorable ratio of weight to strength. Footings and structural steel can be lighter than with ordinary construction. Moreover, Q-Floor saves drafting room time since completely predetermined wiring and mechanical layouts are not necessary. Because no combustible forms and shoring are required, there has never been a construction fire on a Q-Floor job. Add these features to low cost on wiring changes in the years to come, and it's easy to see why Q-Floors are a feature of America's finest new buildings.

The Robertson Technical Library contains data books on Q-Floor which should be part of every architectural and engineering library. Write to us.

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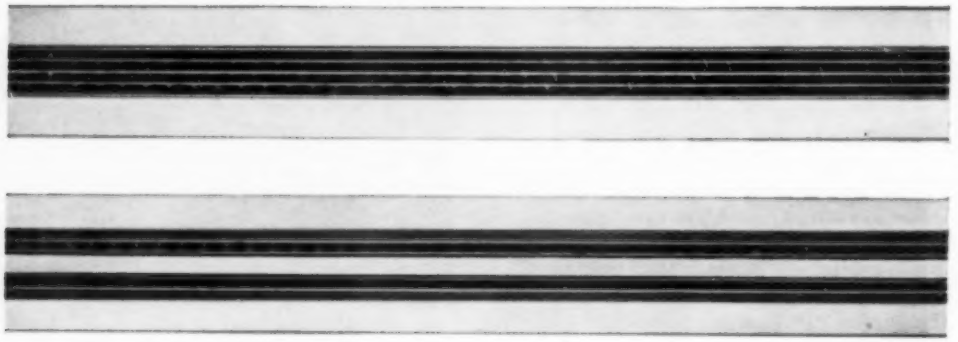

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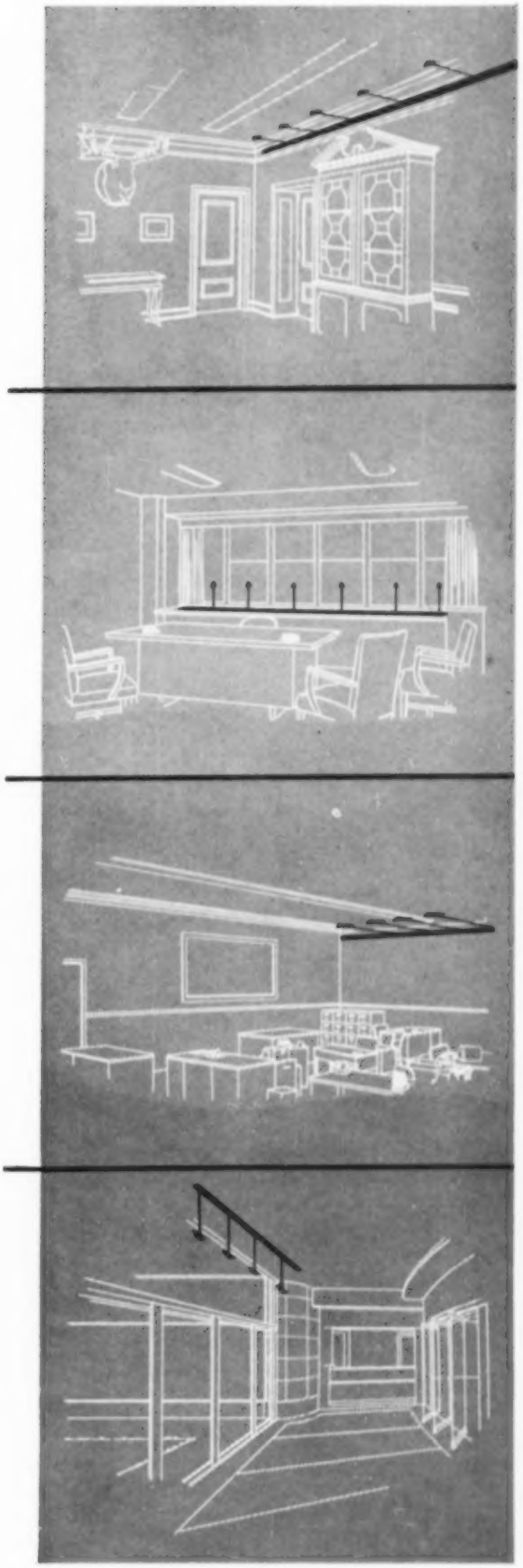

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At each modular interval of Sigma-Plex either an acoustical baffle or a movable partition may be set in place. Sprinklers or supplementary air diffusers may be mounted at the intersections of baffles. Names of reputable manufacturers of movable partitions, high velocity venturas and sprinklers for integration with Sigma-Plex will be furnished by Wakefield.

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The architect's plea for functional compatibility of diverse components is answered once and for all by Sigma-Plex. For now the architect may design office areas of any size or shape knowing he has available to him, as standard products, a number of the most important interior elements, all ready for integration into a harmonious whole.

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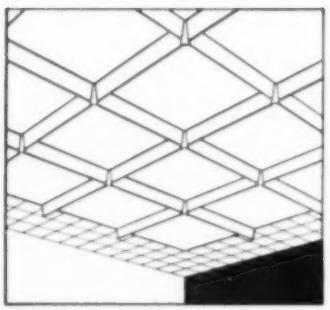
**Plexiglas or Lucite.*

Acoustical Baffles of perforated metal filled with a fiber glass core. These baffles are interchangeable with movable partitions at any modular interval. Sprinklers or supplementary air diffusers may be mounted as desired at baffle intersections. Partitions, sprinklers and venturas are not supplied by Wakefield; see note on left page.

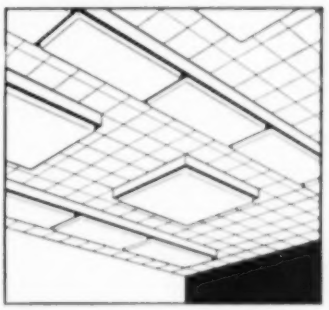
Sigma-Plex is one of a series of Wakefield Geometrics. The others:

Theta-Plex



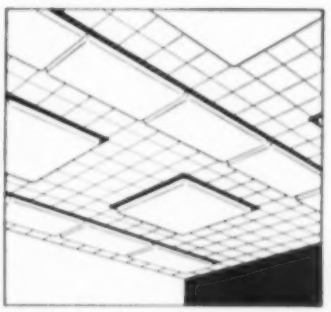
Designed on a four-foot module, Theta-Plex permits coordination of Rigid-Arch plastic diffusers, acoustical baffles, supplementary ceiling areas of acoustical tile, sprinklers and supplementary air diffusers. At each four-foot interval an acoustical baffle may be set in place; or four-foot panels may be joined together in varied combinations.

Omega-Plex



Omega-plex is a complete unit with Rigid-Arch Diffuser, ready for on-surface mounting with no structural ceiling changes required. It comes in four sizes: 4′ x 4′, 2′ x 4′, 2′ x 2′ and 1′ x 4′. Ballasts and lamp holders are contained in an individual metal housing. Omega-Plex may be used individually or combined in a variety of designs. Available with louvers.

Beta-Plex



Beta-Plex is a complete unit with Rigid-Arch Diffuser, ready for recess mounting in a suspended ceiling. It comes in 4 sizes: 4′ x 4′, 2′ x 4′, 2′ x 2′ and 1′ x 4′. Ballasts and lamp holders are contained in an individual metal housing. Employing various Beta-Plex sizes, singly or in continuous patterns, the architect can create numerous designs. Available with louvers.

An eight-page, three color folder, with illustrations, technical drawings and descriptive text, has been prepared for each of the Wakefield Geometrics. Copies will be sent you if you will write The F. W. Wakefield Brass Company, Vermilion, Ohio. In Canada, Wakefield Lighting Ltd., London, Ont.

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Speed up construction and hold down building and maintenance costs at the same time with the new EZS system for mechanical suspension of ACOUSTONE, America's most distinguished acoustical tile. Here's the ideal solution for many ceiling problems, thanks to these advantages:

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Sound control is a job for experts. For assistance in planning, for complete drafting room details, contact your nearby ACOUSTONE contractor, or write United States Gypsum, Dept. 136, Chicago 6.

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Details of the unusual wall and floor construction showing how exterior facing is fastened and ceiling suspended. Aluminum facing consists of 6 x 12-foot stamped aluminum sheet $\frac{1}{16}$-inch thick.

Architects—Harrison & Abramovitz
Associate Architects
Mitchell & Ritchey
Altenhof & Bown
Architect in Charge of Tenant Layouts and Furnishings
Paul K. Schell
General Contractors
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AN INVITATION TO VISIT A LABORATORY TO THE BUILDING INDUSTRY...THE ALCOA BUILDING

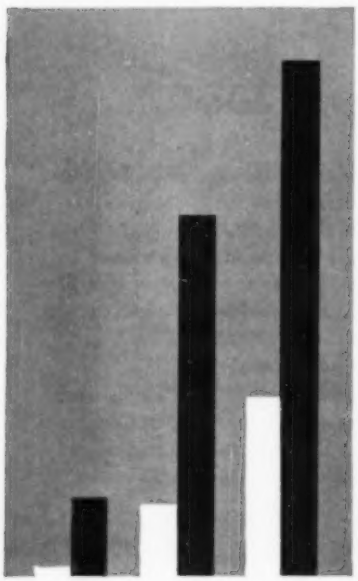
As an architect, designer or contractor, you've probably had a keen desire to see and thoroughly inspect aluminum in a variety of interesting applications in one completed project. Perhaps you have thought of specifying aluminum for curtain wall panels with windows built into them, or ceilings of aluminum which would supply year-round controlled temperatures, or all-aluminum electrical distribution or water service systems.

The new Alcoa Building has been built to include all these practical applications of this metal of all trades and many more. Years of research plus the ingenious designs of the architects and engineers have created this unique and efficient headquarters building for Alcoa.

During September, Alcoa extends a sincere invitation to those of you with an interest in new and unusual applications of aluminum to come to visit the Alcoa Building, a laboratory to the building industry, opening this month. Aluminum Company of America, 1890-J Alcoa Bldg., Pittsburgh 19, Pa.

Alcoa Aluminum

ALUMINUM COMPANY OF AMERICA



Before World War II the aluminum industry sold 18 million pounds annually to building field—only 6% of its 300-million-pound total production. *Before Korea* it was selling 280 million pounds—20% of 1.4-billion-pound output. Best market research indicates rise to 700 million pounds annual consumption by building trades—35% of 2-billion-pound industry capacity.

Aluminum windows will be closed and locked except for cleaning, effected from the interior by pivoting window on vertical axis. In cross section, windows contain sections ¼-inch-thick plate glass, ½-inch air space and ¼-inch-thick heat-absorbent plate glass on the weather side.

Radiant heating and cooling system is first of type in this country. It is designed to handle all winter-heating requirements and summertime cooling; including acoustical comfort.

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Because its beauty endures, terrazzo made with Atlas White Cement is an economical long-term choice for commercial and other buildings where floor traffic is heavy. Terrazzo floors are easy to clean . . . require little, if any, maintenance . . . waxing and polishing are unnecessary. Low annual cost is but one reason for terrazzo's popularity. Another is its high enhancement of store interiors, its first, and lasting, impression on shoppers.

With terrazzo, architects have a spectrum of color and unlimited design possibilities from which to choose. Made with a true white cement, like Atlas White, any desired color and shading can be produced.

For further information see SWEET's Catalog, Section 12g/Un and 3d/Un, or write Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.

Architect:
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Sioux Falls, S. D.
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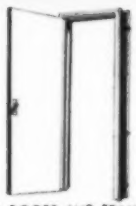
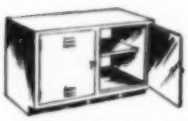
Aetna engineering and research is backed by fifty years' experience in the design and manufacture of hollow metal products.

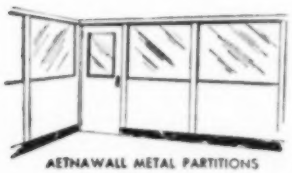
That's why architects know they can depend on Aetna for the kind of care and regard for detail which clear the way for quick and economical installation.



STEEL DOORS AND FRAMES



STEEL HOSPITAL CABINETS



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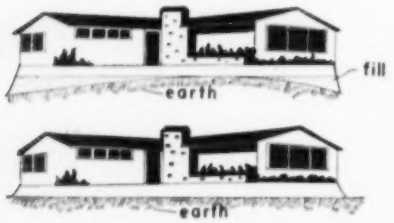
KENRUBBER ... For you who

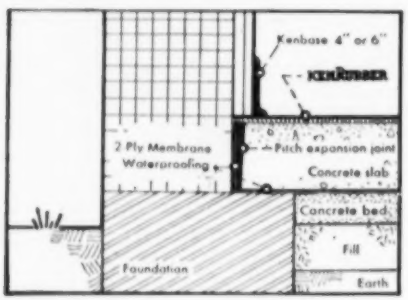
Now you can specify KenRubber for installation on concrete in contact with earth



New KenSet Adhesive was specially developed and made for installing any rubber tile over concrete in contact with earth...if underfloor is at least 12" above surrounding grade and drainage is away from installation. See diagrams above for applicable underfloor levels.

If underfloor is less than 12" above surrounding grade, or drainage is not away from installation as shown below

You can still specify KenRubber with the use of waterproofing membrane to prevent capillarity. If there is a static head more plies may be required than shown in blueprint below.



KenRubber is made in the industry's newest plant which contains all of the new equipment and manufacturing techniques recently created for rubber tile production. Its colors are cleaner and brighter...its marbleization clearer and crisper—free of "muddiness"!

Luxurious in appearance...resiliently comfortable underfoot—KenRubber is also outstandingly tough with "coiled-spring" strength, never soft or flabby. Dirt and grime that grind into other soft rubber tiles, stay on the KenRubber surface...are easily wiped away. Occasional washings and infrequent waxings are all that is needed to keep KenRubber bright and beautiful through years of hardest use.

Specifications and Technical Data

INSTALLATION

Over any smooth firm interior surface that is removed from greases and oils. At left diagrams show how new KenSet adhesive makes possible easier, more economical installations over on-grade underfloors that are at least 12" above the surrounding grade level with drainage away from building.

INSTALLED PRICES

Prices range from 50¢ per sq. ft. to 80¢ per sq. ft. for a minimum area of 1000 sq. ft. over cement depending on which of the thicknesses is chosen, which color group is specified and condition of the underfloor.

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KenRubber is available in .08" and 1/8" thicknesses for normal demands...3/16" for extra-heavy duty.

SIZES

Standard tile size is 9" x 9". Other sizes furnished on special order.

For more information on KenRubber consult the KENTILE, INC. *Flooring Contractor who is a trained and experienced expert . . . fully qualified to aid you in choosing the proper floor for every residential, commercial and industrial installation. Call on him whenever you wish. For his name and address look under FLOORS in your Classified Phone Directory.*

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demand the **finest**

The restful, "Cushioned Beauty" of KenRubber softens sounds, helps lessen fatigue in stores, shops and offices. KenRubber color at right is Connemara with Ivy ThemeTile and White Feature Strip.

The distinctive elegance of KenRubber adds value to every home. KenRubber colors above are Vert Isabelle and Purbeck.

KENRUBBER for Cushioned Beauty
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KENRUBBER TILE FLOORS
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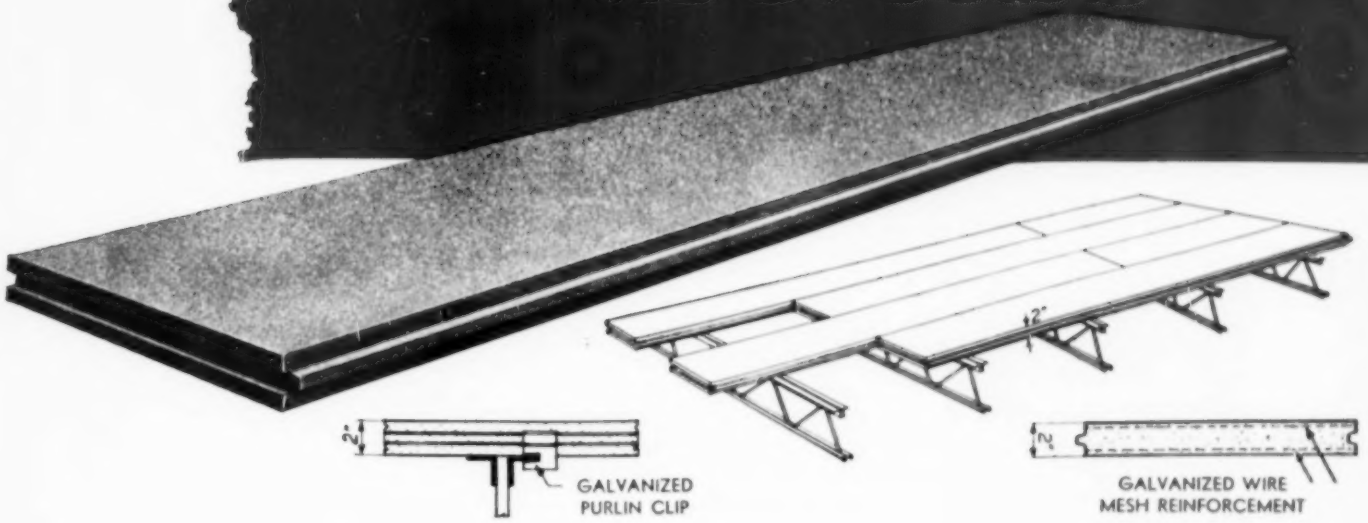
TONGUE and GROOVE CONCRETE ROOF PLANKS
by the Makers of FEDERAL Featherweight CONCRETE ROOF DECKS



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The new planks are 2" thick, tongue and groove at the ends as well as the sides. They are laid at random with a bearing on two or more supports and provide an excellent base for composition roofing. Ornamental covering such as slate, tile, copper, etc. may be nailed on with complete assurance that the nails will hold securely despite high winds or vibration.

Electric galvanized wire mesh reinforcement at top and bottom assures ample strength. The planks are unaffected by weather or water and will not wear out, rust out or disintegrate. They provide good heat insulation. Weight, 12 lbs. per square foot.

Federal's over forty year record as manufacturers of permanent, structural concrete roof decks guarantees the dependable quality and performance of the new tongue and groove roof planks. Mail coupon now for specifications and complete information.

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These insulations—Ultralite, Ultrafine and a truly remarkable product called Ultracoustic—have been used in the walls, ceilings and ducts of TV stations with outstanding success. Each is tailored to solve specific acoustical problems. All offer the advantages of lightweight glass fiber mat rolls—easy to handle . . . inexpensive to apply . . . immune to decay, rot, mold, and vibration.

Gustin-Bacon acoustical insulations are serving architects in countless other ways—as a "silencer" in jet aircraft test cells, in air conditioning ductwork, in noisy factories, in radio stations and on sound sets. Case histories and technical data are summed up in G-B's new acoustical brochure, just off the press. Write for your free copy today.

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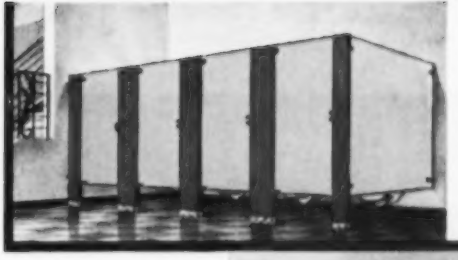
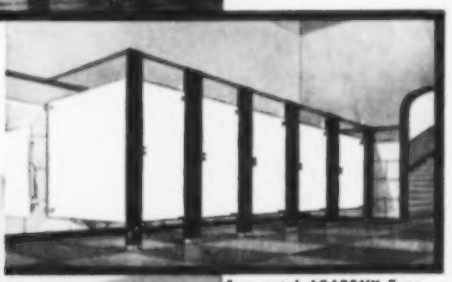
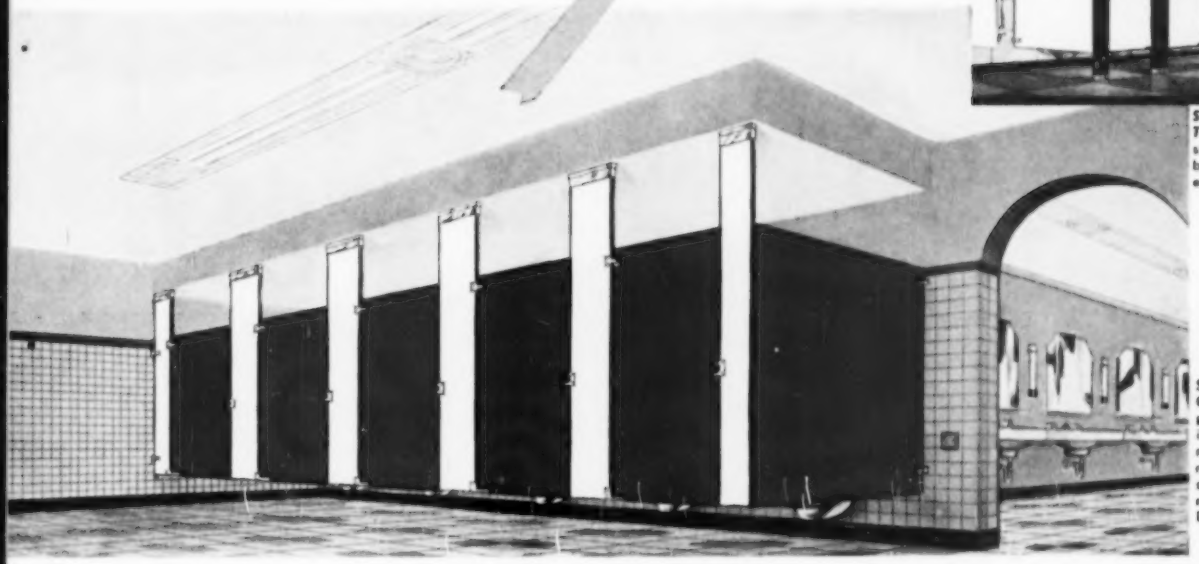
functional type of rest room
is ***INCOMPLETE!***



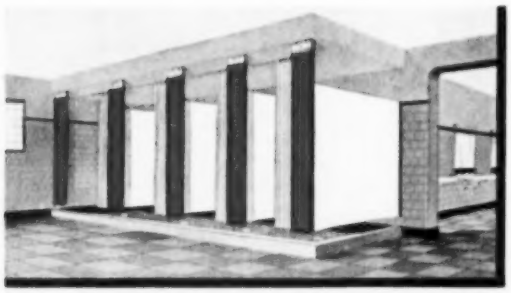
Sanymetal NORMANDIE Type Toilet Compartments endow a rest room environment with dignity and good taste.



Sanymetal ACADEMY Type Toilet Compartments are suitable for conservative but modern rest room environments.



Sanymetal CENTURY Type Ceiling Hung Toilet Compartments offer the utmost in sanitation and provide modern, distinctive rest room environments for schools, institutions, terminals and other public buildings.



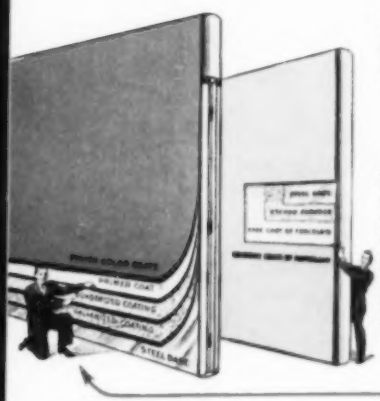
Sanymetal CENTURY Type (Ceiling Hung) Shower Stalls of Sanymetal "Porcena" (Vitreous Porcelain on Steel) Partitions and Pilasters, as arranged for a typical club installation. Also available in Sanymetal "Tenac" (synthetic enamel baked on over Galvanized, Bonderized* Steel).

It is obsolete before it is completed according to today's standards. To insure against *untimely obsolescence* consider wall-type plumbing fixtures installed with Sanymetal ceiling-hung toilet compartments.

Sanymetal offers several different types of toilet compartments. Sanymetal also offers and recommends Two Full Purpose Metal Base Materials which combine colorful attractiveness with long years of service life and effect important day-after-day savings in cleaning and maintenance costs. These Two Full Purpose Metal Base Materials–Sanymetal "Tenac" (Galvanized, Bonderized** Steel), and Sanymetal "Porcena" (Vitreous Porcelain on Steel), the ageless and fadeless, rustproof material–are described herein. Sanymetal Toilet Compartments are also available in cold rolled steel.

Sanymetal Toilet Compartments and Shower Stalls embody the results of over 39 years of specialized skill and experience in making over 500,000 toilet compartment and shower stall installations. Ask the Sanymetal representative in your vicinity to demonstrate the worthiness of Sanymetal Toilet Compartments as protection against *untimely obsolescence.*

This is Sanymetal
"PORCENA"
(Vitreous Porcelain on Steel)
A metal base material that is impervious to moisture, odors, cleaning and uric acids, oils and grease. It is rust proof. Available in 21 glistening colors.



This is Sanymetal
"TENAC"
*(Baked-on Paint Enamel over Galvanized, Bonderized** Steel)*
A metal base material that is notable for the positive adhesion of the baked-on paint enamel to the metal and its resistance to corrosion. Its lustrous, protective finish assures long-lasting newness. Available in 21 gleaming colors.

THE SANYMETAL PRODUCTS CO., INC.
1683 Urbana Road • Cleveland 12, Ohio

Sanymetal Toilet Compartments embody the results of specialized skill and experience in fabricating over 500,000 toilet compartments in all types of buildings. Ask the Sanymetal representative in your vicinity for information about planning suitable rest room environments that will always stay new. Refer to Sanymetal Catalog $\frac{21b}{Sa}$ in Sweet's Architectural File for 1953 and Catalog $\frac{13a}{Sa}$ in Sweet's Industrial File for 1953.

Sanymetal*

*Trade Mark Reg. U. S. Pat. Off.
**Treated with "Bonderite" a product of Parker Rust Proof Company

TOILET COMPARTMENTS
SHOWER STALLS AND
DRESSING ROOMS

MENGEL

Mahogany

FLUSH DOORS

ADD $$$ TO HOUSE VALUES—

YET COST LESS THAN MANY DOMESTIC WOODS!

Genuine African Mahogany is recognized everywhere as the King of Woods — is far more *desirable* than ordinary woods.

Mengel Mahogany Flush Doors are built with faces of genuine African Mahogany, which *automatically* upgrades any building in which it is used.

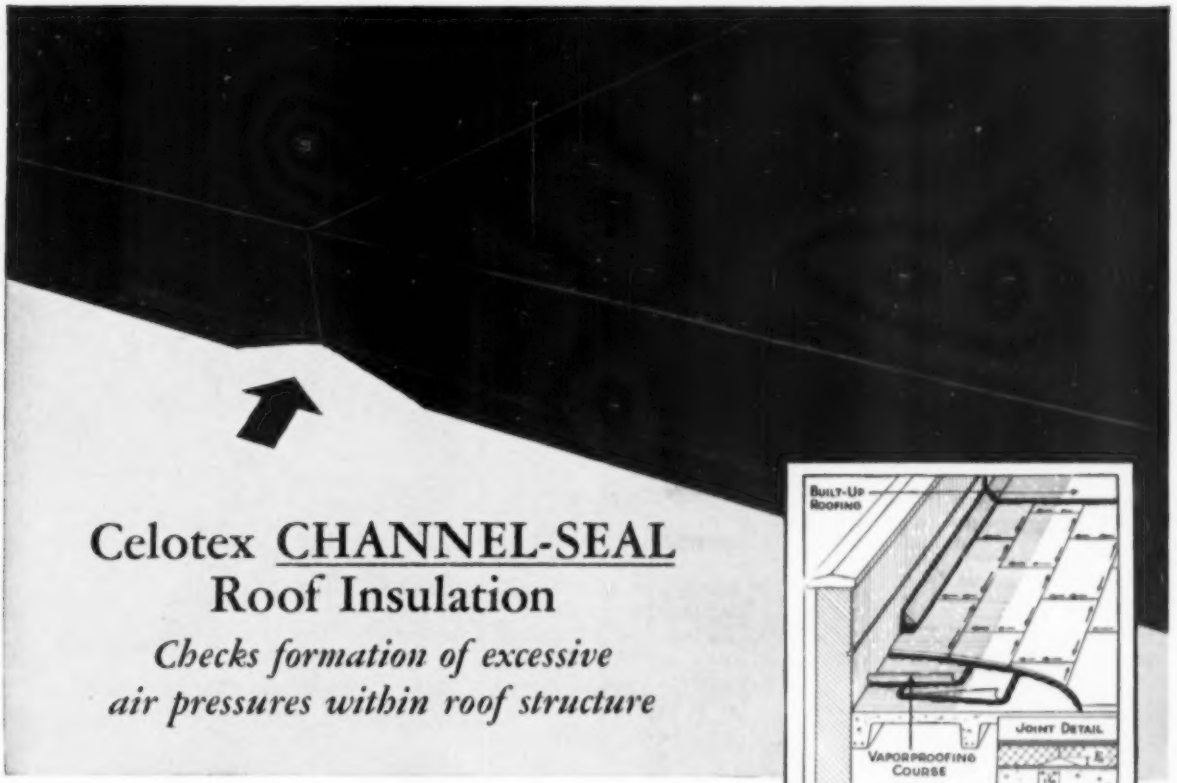
Yet you can buy Mengel Flush Doors, or Standardor Flush Doors, with faces of genuine African Mahogany, for fewer dollars than you'd pay for comparable doors of almost any domestic wood!

The Mengel Company operates its own logging concession and mill in the best Mahogany section of Africa, and imports this King of Woods in tremendous volume. *You get the savings!*

Equally important, Mengel and Standardor Flush Doors are built *better*, to give *better service*. Compare specifications, either in Sweet's or at your dealer's. You'll be glad you investigated!

Door Department
THE MENGEL COMPANY
Louisville, Kentucky

Exclusive channeling guards against blistering and separation of felt and insulation



Celotex CHANNEL-SEAL Roof Insulation

Checks formation of excessive air pressures within roof structure

Here you see why high-pressure air pockets won't build up with Celotex Channel Seal Roof Insulation. Pressures due to temperature differences are equalized by movement of air through the channels. This channeling principle of roof protection has been proved effective by many years of actual use on jobs of every type and size.

YOU PROVIDE an *extra margin of safety* against roof damage due to the formation of high-pressure air concentrations, when you specify Celotex Channel-Seal Roof Insulation. Its built-in "safety release" equalizes the pressure of air trapped in the roof, gives protection no ordinary roof insulation can provide!

Each piece of Channel-Seal has bevels 7/16" high by 1 1/16" wide on all bottom edges. When units are laid on the deck, these bevels form a network of broad, interconnecting channels extending over the entire roof.

How "Safety Release" Works

As higher pressures build up in some areas of the roof due to rising surface temperatures, they are relieved by air movement through the channels. Thus, pressure is reduced and equalized—the risk of blistering or separation of felt and insulation is minimized.

Made of a special board of unusually high insulating efficiency, Celotex Channel-Seal Roof Insulation is available in a range of thicknesses to meet the specific insulation requirements of each job. It is asphalt-coated on both sides and all edges, for extra moisture protection in storage and on the job.

Low Cost, Quickly Applied

Low in both initial and applied cost, Celotex Channel-Seal is remarkably rigid and tough, yet light and easy to handle. Resists damage from job handling. Smooth surface assures positive bond to both roof deck and roofing felt.

What's more, it is the only roof insulation made of durable, interlocking, long Louisiana cane fibres—and protected by the patented Ferox® process from dry rot and termites. Write now for full data on Channel-Seal and other types of job-proved Celotex Roof Insulation for every need. The Celotex Corporation, Dept. PA-93, 120 S. LaSalle Street, Chicago 3, Illinois.

For a better roof... specify genuine **CELOTEX** REG. U. S. PAT. OFF. **ROOF INSULATION**

THE CELOTEX CORPORATION, 120 SOUTH LA SALLE STREET • CHICAGO 3, ILLINOIS

NO GERIATRICS PROBLEM HERE

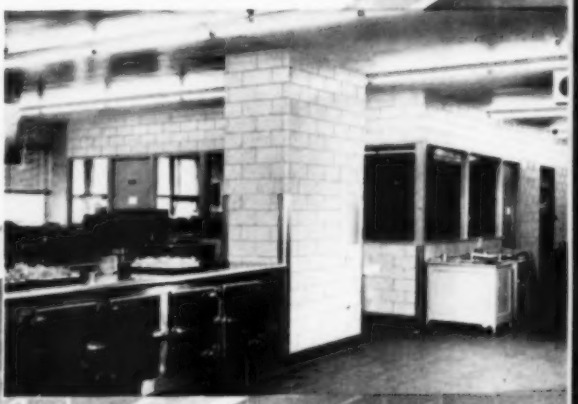
Interiors of **Facing Tile** will help to keep this hospital young and beautiful

"Give us the *right* environment–and make it last!" This is what most hospital clients are asking for today–as an antidote to ever-increasing operating costs. And it's just what they'll get when you specify interiors of Facing Tile.

Facing Tile assures an environment that will be helpful to both patients and staff. Its range of scientifically-developed colors permits you to choose combinations which will do most to aid vision and lighting and boost morale.

Facing Tile reduces the long-term maintenance costs which can undermine a good medical program. Its durable surface stands up under heavy hospital traffic–never needs refinishing. And it washes so easily that the highest standards of cleanliness can be met with a minimum staff.

For full data on Facing Tile, glazed or unglazed, just write or call our New York or Washington offices.

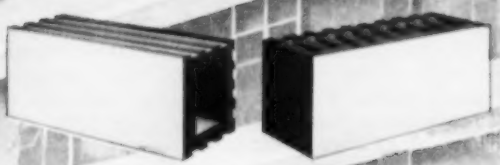


MAIN KITCHEN

UTILITY ROOM

AUTOPSY ROOM photo courtesy of S. Blickman, Inc.

Three typical installations of Structural Facing Tile in the handsome, new 200-bed Greenwich, Connecticut Hospital. Skidmore, Owings and Merrill, Architects. Geo. A. Fuller Company, General Contractors



LOOK FOR THIS SEAL FTI Member of

Used only by the members of the Facing Tile Institute, it is your assurance of highest quality. In the interest of better Facing Tile construction these companies have contributed to the preparation of this advertisement:

CHARLESTON CLAY PRODUCTS CO.
Charleston 22, West Virginia

THE CLAYCRAFT CO.
Columbus 16, Ohio

HANLEY CO.
New York 17, New York

HYDRAULIC PRESS BRICK CO.
Indianapolis, Indiana

MAPLETON CLAY PRODUCTS CO.
Canton, Ohio

METROPOLITAN BRICK, INC.
Canton 2, Ohio

McNEES-KITTANNING CO.
Kittanning, Pennsylvania

NATCO CORPORATION
Pittsburgh 22, Pennsylvania

STARK CERAMICS, INC.
Canton 1, Ohio

WEST VIRGINIA BRICK CO.
Charleston 24, West Virginia

FACING TILE INSTITUTE

1949 Grand Central Terminal, New York 17, N. Y.

1520 18th Street, N. W., Washington 6, D. C.

IT'S FACING TILE . . . *No other single building material gives you so much for so little!*

The little piece of paper that's selling houses today!

Even we didn't realize what a powerful selling tool this Curtis Woodwork guarantee could be! But today it's actually being used by builders to sell the *entire house.* It's not hard to find the reason why. Today's home buyers are choosey... value-wise and quality conscious. No wonder they respond to the kind of assurance they get from the Curtis name and the Curtis guarantee of quality.

The Curtis Certificate is a guarantee against manufacturing defects in materials and workmanship in any Curtis product over which Curtis has control. It is issued by the dealer who furnished the Curtis Woodwork. Architects who specify "Curtis Silentite" can be confident of satisfied clients... builders who feature the Curtis guarantee are getting substantial help in moving homes faster and at a better price.

Glazed, pre-fitted and ready to install, the Curtis Silentite window unit saves time on the job. Here, the Silentite double-hung windows flanking the picture window have the exclusive patented Silentite construction—including "floating" weatherstrips—which assures superior weather-tightness and fuel economy.

Silentite wood casements close tightly to shut out wind and dust—won't swing or rattle in the wind. They come in several sash styles and in all commonly used sizes. Special Curtis operating hardware gives easy, simple control.

The new Curtis panel windows offer a highly flexible means of providing for any desired number of window openings. Simple, yet rugged in construction, they are available for standard Thermopane or Twindow glazing. Ventilating units and louvres are furnished when desired.

1953 CURTIS WOODWORK
SILENTITE
PRE-FIT
the "Insulated" window

Curtis Companies Service Bureau
PA-9, Curtis Building
Clinton, Iowa
Please send booklet on Curtis Silentite windows.

Name.....

Address.....

City.....*State*.....

Curtis makes a complete line of architectural woodwork and birch kitchen cabinets for homes of all types. Make your next home "all Curtis."

At the

DANTE PLACE

Housing Project...

(BUFFALO, N. Y.)

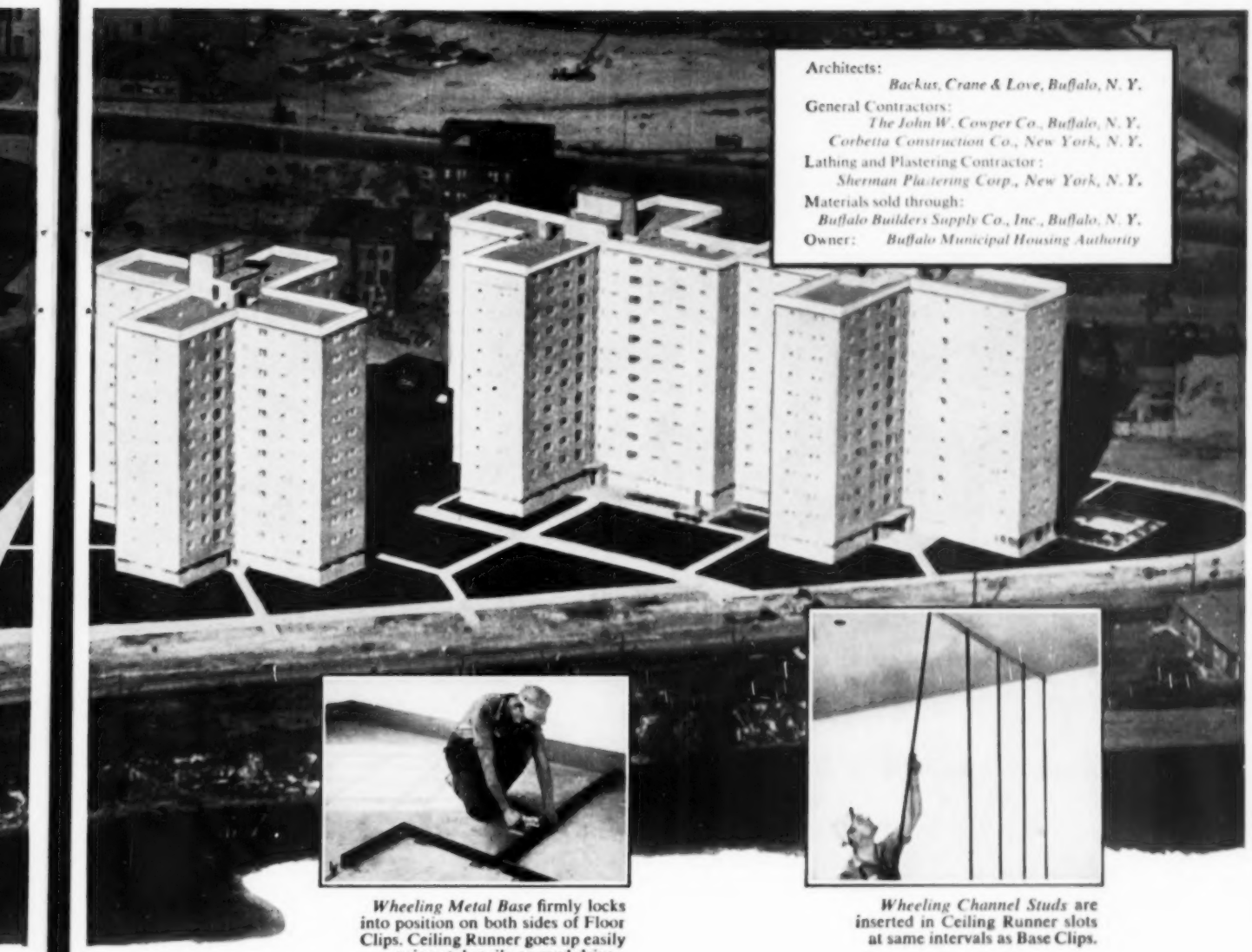
IT'S WHEELING SOLID PLASTER

The new Dante Place Housing Project in Buffalo, N. Y., is an outstanding example of how progressive planning can economically convert a sub-standard area into a desirable, low-rent housing development. Overlooking Lake Erie, Dante Place's seven 12-story buildings provide modern housing for 616 families.

Solid plaster partitions, utilizing Wheeling Metal Lath and Metal Base, were used throughout. With this highly efficient combination, the builders were able to speed construction, cut costs, and save valuable floor area... meeting every requirement demanded of any rental housing: economy, durability, fire safety.

WHEELING CORRUGATING COMPANY • BUILDING MATERIAL DIVISION

ATLANTA BOSTON BUFFALO CHICAGO COLUMBUS DETROIT HOUSTON KANSAS CITY LOUISVILLE MINNEAPOLIS NEW ORLEANS



Architects:
Backus, Crane & Love, Buffalo, N. Y.
General Contractors:
The John W. Cowper Co., Buffalo, N. Y.
Corbetta Construction Co., New York, N. Y.
Lathing and Plastering Contractor:
Sherman Plastering Corp., New York, N. Y.
Materials sold through:
Buffalo Builders Supply Co., Inc., Buffalo, N. Y.
Owner: *Buffalo Municipal Housing Authority*

Wheeling Metal Base firmly locks into position on both sides of Floor Clips. Ceiling Runner goes up easily using stub nails or rawl drives.

Wheeling Channel Studs are inserted in Ceiling Runner slots at same intervals as Base Clips.

PARTITIONS

The Wheeling line of building materials includes: Steelcrete Reinforcing Mesh, Expanded Metal, Metal Lath and Metal Lath Accessories, Metal Base, Tri-Rib Steel Roof Deck, ExM Angle Frame Partitions and Steelcrete Vault Reinforcing.

Wheeling Metal Lath ties flat to Channels with Wheeling Hank Tie Wire. Plaster is applied on both sides to form an effective solid partition.

WHEELING, WEST VIRGINIA

NEW YORK PHILADELPHIA RICHMOND ST. LOUIS

Wheeling

Here's an example of how STEELTEX saves maintenance costs on rental housing

When M. Lee Heath, owner of the Kensington Court Apartment Project in Charlotte, N. C., insisted two years ago upon Steeltex for brick-veneer and Steeltex for interior plaster, he did so because he wanted low maintenance cost in the years to come. This is what Mr. Heath had to say after 24 months:

> "I used Steeltex for sheathing because it completely bonded the masonry and stud walls together. It was my opinion that a solid steel-reinforced mortar section was better than a flue crossed with wall ties. I then used Steeltex for plaster, because of the completely rigid base it made. I found this type of construction to be surprisingly inexpensive at the time, and I can now say it has saved me a considerable amount in maintenance cost. After two years there simply have been no wall cracks at all. Certainly any owner of rental property can appreciate this feature."

Whether your projects involve rental housing or not, you'll find it will pay you to investigate the advantages that rigid, welded-wire Steeltex can bring. See our catalog data in Sweet's or write for Catalog DS 132 Dept. PA, Pittsburgh Steel Products Company, Grant Building, Pittsburgh 30, Pa.

From the close-up photographs above and below, you can see some of the advantages of Steeltex. Notice above that a continuous steel-reinforced mortar bond is created between brick and stud walls. Below is shown the virtual truss construction created by Steeltex for plaster.

Pittsburgh Steel Products Company

a subsidiary of Pittsburgh Steel Company

Sheldon has the ANSWER

if you are facing the question of planning and equipping Highschool

SHOPS
HOMEMAKING ROOMS
ARTS-CRAFTS WORKSHOPS
SCIENCE ROOMS AND LABS

Sheldon's planning principles have been developed by solving challenging problems like the ones facing you now. Especially if your school clients are worried and pinched, student-rich and space-poor, Sheldon guidance will give you the sort of ingenious furniture patterns that allow saturated participation in a full program. And remember that 100% Sheldon Furniture means 100% educationally correct.

E. H. SHELDON EQUIPMENT CO. MUSKEGON, MICHIGAN

*SHELDON FURNITURE

for high-school shops, laboratories, homemaking rooms, and studios

WHAT YOU DO RIGHT NOW IS MIGHTY IMPORTANT

That moment when he hits . . . if you don't set the hook hard and firm, you'll never see him in the boat. And *this* moment in business . . . now's the time to give yourself the competitive edge you're going to need, perhaps sooner than you think. ● Allegheny Metal can reduce costs, add strength, increase service life, improve appearance, cut weight, overcome rust. How many of those properties of stainless steel can you use to advantage, and how can we help you to do so? ***Allegheny Ludlum Steel Corporation, Oliver Bldg., Pittsburgh 22, Pennsylvania.***

You can make it **BETTER** with

Allegheny Metal

AL
TIME-TESTED STAINLESS STEEL

Warehouse stocks carried by all Ryerson plants

WAD 47198

air conditioning

attracts a community's funds —and its fun

A social room in a *bank?* Yes—it's one example of how banks are becoming more and more a part of the communities they serve. This combination branch office and civic center—complete with parking facilities and air conditioning—is located five minutes from the heart of Syracuse, N. Y. It's the new Community Branch of the Onondaga County Savings Bank. ▪ The 30′ x 90′ main floor is designed for banking and business. The fully furnished basement room, with its own parking lot entrance, adjoining kitchen and dressing rooms, is dedicated to the activities of local church, club and civic groups. A Carrier Weathermaker* Air Conditioning System helps keep both upstairs and downstairs busy and inviting. The Carrier Weathermaker provides year-round comfort. Its heating coils use

steam supplied by a gas-fired boiler. ▪ The new branch enjoys the best community relations in the bank's history and officials credit this to the community center—parking lot—air conditioning combination. ▪ Whether you are designing a bank, a suburban store, a restaurant or a controlled-climate home, you will find in the full line of Carrier Weathermakers one that fits the bill exactly. Carrier people founded the air conditioning industry more than 50 years ago. All this experience is yours to command. Look for Carrier in the Classified Telephone Directory. Or write Carrier Corporation, Syracuse, New York.

Carrier

air conditioning
refrigeration
industrial heating

Architects: Merton E. Granger, Helen C. Gillespie
Mechanical Engineers: St. John & Platt
Mechanical Contractor: Edward Joy Company
Air Conditioning Contractor: Cooney Company

*Reg. U.S. Pat. Off.

SANTA FE FREIGHT STATION
Corwith (Chicago), Ill.

Architect:
ATCHISON, TOPEKA & SANTA FE RY. CO.

General Contractor:
ELLINGTON MILLER CO., CHICAGO

Roofing Contractor:
EMPIRE ROOFING CO., CHICAGO

ALL *Ruberoid* AND A FREIGHTYARD WIDE

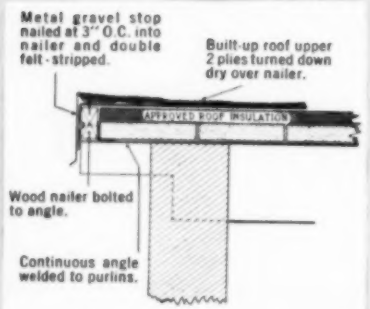
Six football fields could be tucked under the broad expanse of Ruberoid roofing at the Santa Fe Railroad's new Chicago freight station. That's a lot of roofing but that's what it takes to protect the heavy traffic at the eastern terminus of the Santa Fe system. From six tracks, 156 freight cars can unload their goods simultaneously at this modern depot.

On big jobs like this, architects turn readily to Ruberoid for assistance in their roofing problems. They know that no other company offers the same wealth of experience and knowledge dating back to the first roll of asphalt roofing ever produced. They know that they can find roof specifications to meet every set of conditions in Ruberoid's Built-Up Roofing Book. For this freight station, approximately 3000 squares of Coal Tar Pitch, Tarred Felt and gravel surfacing were applied by the Ruberoid Approved Roofer.

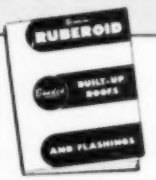
On small jobs, too, you can rely on Ruberoid for the same top-notch service. So, no matter what the size of your next job, consult the Ruberoid Specification Book for complete, unbiased information on selecting Built-Up Roofing. Write for your free copy to The Ruberoid Co., 500 Fifth Ave., New York 36, N. Y.

RUBEROID RECOMMENDATION

(A typical detail example from the Ruberoid Specification Book)


Metal gravel stop nailed at 3" O.C. into nailer and double felt-stripped.
Built-up roof upper 2 plies turned down dry over nailer.
APPROVED ROOF INSULATION
Wood nailer bolted to angle.
Continuous angle welded to purlins.

THE RIGHT ROOF FOR ANY JOB —FROM ONE SOURCE



Smooth Surfaced Asbestos, Coal Tar Pitch with gravel or slag surfacing, smooth or gravel-and-slag surfaced Ruberoid Special Bitumen . . . You'll find specifications for every type of Built-Up Roofing in the Ruberoid book. Ruberoid Approved Roofers will help you select those that best meet the particular needs of every job.

The RUBEROID Co.

ASPHALT AND ASBESTOS BUILDING MATERIALS

with the "built-in" durability of

VINYLITE RESINS
BRAND

All of the interior sheetrock walls in the auditorium, class and nursery rooms, offices and other rooms of this Southwest church were spray decorated with a texture coating made of VINYLITE Resins by Plastic Coating Corporation, Houston, Texas. Their report states, "It gives a perfect uniform texture that is beautiful but very tough and washable." Acoustic boards and exterior masonry were also finished with VINYLITE Resin coatings.

Here's the way to get a brand new look with brand new economy. Use *texture coatings* based on VINYLITE Brand Resins.

You get the durability that VINYLITE Resins build into coatings for practically every purpose—for exteriors or interiors for masonry, concrete or metal. No matter how rough the service, how severe the conditions, they stick tight and stay tough. Coatings of VINYLITE Resins wear better and last longer.

You cut maintenance costs to the bone. You decorate less often. VINYLITE Resin coatings clean easily and quickly with plain soap and water. They resist dirt and staining. Properly applied, they won't crack, chip, peel or fade.

And, because coatings of VINYLITE Resins are made in any color, in textures and special finishes, you have the widest range of decorating possibilities.

For case histories, complete information and specifications for masonry coatings based on BAKELITE and VINYLITE Resins, and a list of suppliers, write today to Dept. QK-58.

Vinylite
BRAND
RESINS

TRADE MARK

BAKELITE COMPANY
A Division of
Union Carbide and Carbon Corporation
UCC
30 East 42nd Street, New York 17, N. Y.

Permanently Warp-Free

Square

True Dimensioned

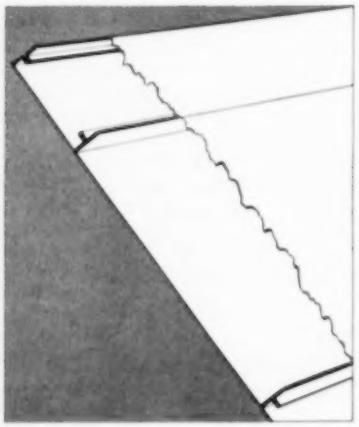
USF *"WOOSTER"*

Hollow Steel Doors and Frames

THE MOST RIGIDLY REINFORCED FLUSH STEEL DOOR MADE

MATCHING DESIGN FROM CORRIDOR TO CLOSET

USF's "Wooster" Doors provide a matching flush panel design in a full range of $1\frac{3}{8}''$ doors that accommodate every residential building need including corridor entrance doors, partition doors, swinging and by-pass sliding closet doors. Thermal and acoustical insulation, B-label coded doors, glazed, louvered or interviewer types are available.



The Facts

USF Hollow Steel Doors are the only box type internally jig welded doors made. (See cross section at left.) This is your assurance of rigidity, squareness, freedom from warpage and smooth outer finish.

Matching steel frames are also jig welded into one piece for ease of installation, smooth corner finish, and positive squareness. For full data, see us in Sweet's.

USF Reg U.S. Pat. Off

UNITED STEEL FABRICATORS, INC.

WOOSTER, OHIO

Waterproofed BRIXMENT HELPS PREVENT EFFLORESCENCE

Efflorescence is caused by soluble salts which are present in almost all masonry materials. When reached by water, these salts dissolve and may be drawn, by evaporation, to the surface of the wall.

Brixment is permanently waterproofed, during manufacture, with the most effective air-entraining waterproofing agent known.

Waterproofed Brixment mortar checks the passage of water and keeps it from percolating down through the wall, dissolving salts which may be in the masonry materials, and carrying them to the surface.

* * * * * * * * *

In addition to reducing the possibility of efflorescence, Brixment mortar gives you two other practical benefits:

1 HELPS PREVENT LEAKY WALLS

Even under pressure, water cannot readily pass through Brixment mortar. Therefore, if the face brick are backplastered with Brixment mortar, an effective barrier is set up against the passage of water to the inside of the wall.

2 GREATLY INCREASES DURABILITY

Water cannot readily penetrate Brixment mortar. This prevents the mortar from becoming saturated — therefore helps protect it from destructive action of freezing and thawing to which it is subjected many times each winter.

Both these advantages of waterproofed Brixment mortar are fully described in other recent advertisements. Write for reprints.

Louisville Cement Co., Louisville 2, Ky.

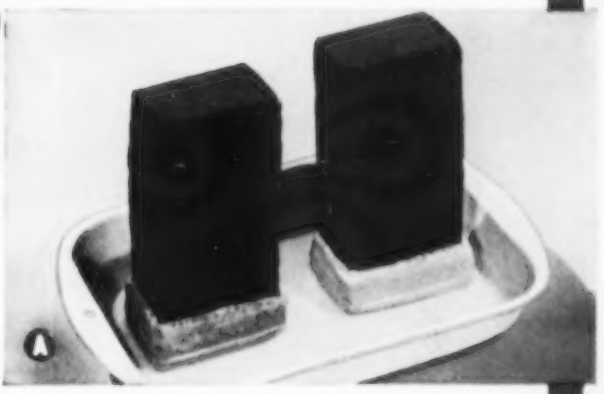


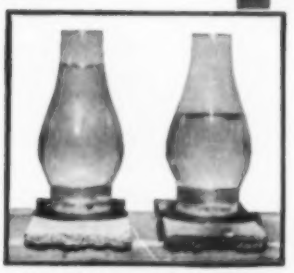
FIGURE 1

A To test Brixment and any other mortar for resistance to efflorescence, "cap" two brick heavily with the mortars, and let harden.

B Keep both brick for a few weeks in a shallow pan of water, as shown. See the difference with waterproofed Brixment mortar!

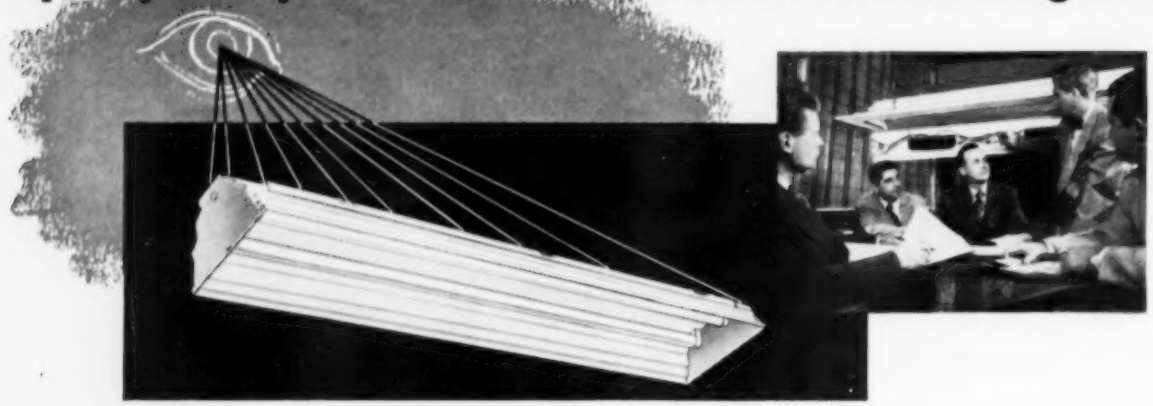
FIGURE 2

Prepare two slabs of mortar, one with Brixment and one with ordinary cement-and-lime mortar. After mortars have hardened, seal a lamp chimney to each of the mortar slabs, using wax or candle grease, and fill with water.



After 24 hours, note how much water has gone into and through the non-waterproofed mortar, and how little water has gone into or through the Brixment mortar.

open your eyes to this revelation in recessed lighting



MITCHELL *uni-flow* fluorescent troffers

NOW you can specify recessed lighting that's years ahead of anything in the field. It's MITCHELL UNI-FLOW . . . completely new . . . dramatically different . . . easier to specify, easier to install, far superior in lighting efficiency. Architects, contractors, utility men and wholesalers say unanimously: *"This is what we've wanted in recessed lighting!"*

JUST 4 EASY STEPS TO A PERFECT *uni-flow* ONE MAN INSTALLATION

1 Uni-Hangers are roughly located in ceiling opening (no critical measuring required). Takes just minutes, regardless of ceiling construction. Saves hours of time on any job—cuts installation costs sharply.

2 Troffer shell (less ballasts, lampholders or reflectors) clamps to Uni-Hangers by means of special Uni-Liner clips (an easy one-man job). Simple screwdriver adjustment levels troffer properly.

3 Reflector-ballast-lamphbIder plate (the bulk of the total troffer weight) is attached to troffer shell by means of jack chains. Thus, there is no weight on the installer's hands when wiring.

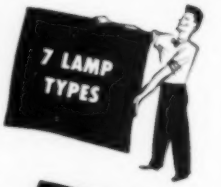
4 With wiring completed, reflector-ballast-lampholder assembly attaches to troffer shell by means of exclusive "Perma-Latch" (no tools or extra loose parts required). Job is now ready for easy lamping.

HERE'S EVERYTHING YOU NEED FOR SIMPLIFIED RECESSED LIGHTING

Here is a complete family of matching troffers in every useful length. Units are available in 2-foot, 4-foot, 5-foot, 6-foot, 8-foot or 10-foot lengths, in deep (10") or shallow (7") types.

Here is the widest selection of shielding equipment: choice of Metal Louver, Plastic Louver, Alba-Lite, Prismatic Glass, Unilens, Twinlens, Curved Lens, Fota-lite, Longitudinal Shields and Crosswise Baffles.

UNI-FLOW troffers offer a choice of 40-watt T-12 standard or instant-start bi-pin lamps, 38-watt Slimline, 54-watt Slimline, 75-watt Slimline, 40-watt T-17 low brightness, 85-watt Krypton, 20-watt T-12 lamps.



Troffers are available with 1, 2 or 3 lamps (except 5-ft. and 10-ft. units with 1 or 2 lamps only). One-lamp units are available in choice of Alzak or baked white enamel reflector; two and three lamp units with baked white enamel reflector.

Only MITCHELL UNI-FLOW has these time-saving, cost-cutting features

Write, phone or wire today for the complete facts about MITCHELL UNI-FLOW
Address Dept. 5-J

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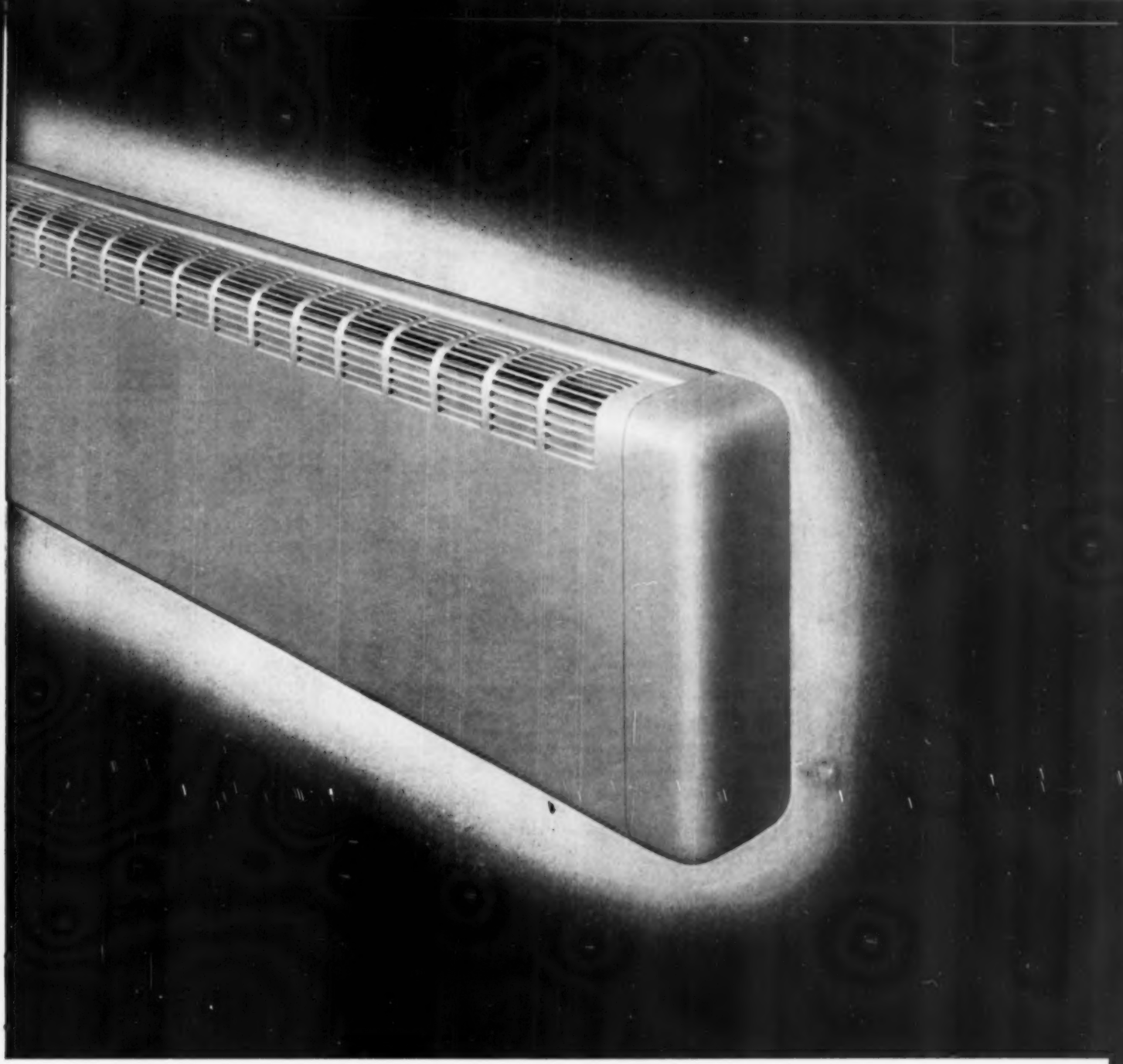
In Canada: Mitchell Mfg. Co., Ltd., 14 Waterman Ave., Toronto



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Nesbitt Sill-line offers you all the benefits of high-capacity wall-fin radiation in the first enclosure expressly styled to harmonize with contemporary building design. Here's quick, uniform, under-the-window perimeter heating that provides economy of operation, ease of installation, and wide flexibility; *plus* an entirely new concept of enclosure styling so desirable for today's institutional and commercial buildings. If you desire further information on this new product, send for Nesbitt Publication 271.

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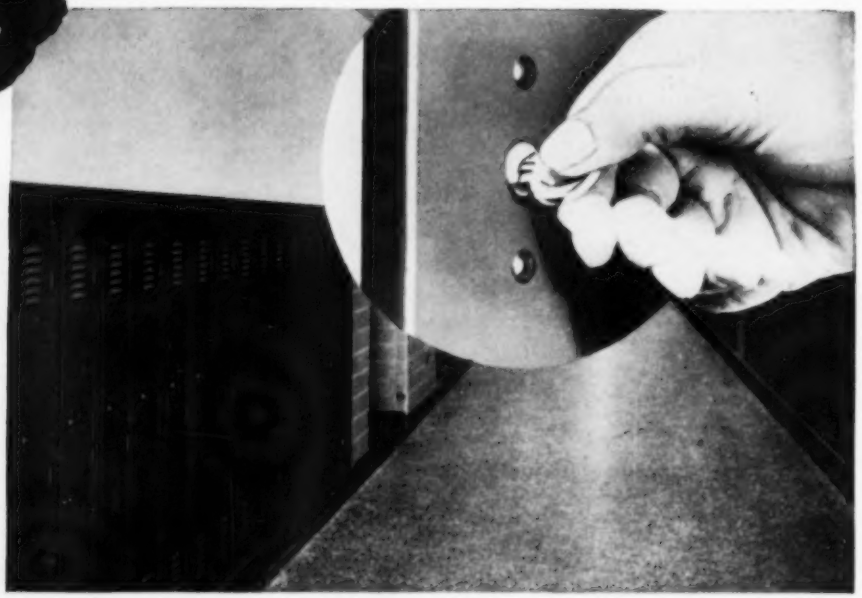
only Berger offers Key-Control Steel Lockers



KEY-CONTROL KEEPS LOCKERS SAFELY LOCKED

Students just can't neglect locking this revolutionary new locker!

They *use* their locker keys, because the key is the handle. The door *pre-locks* when the key is removed and *locks automatically* when closed. As a result, Key-Control school locker systems assure full-time locked protection of books, clothing, equipment and personal effects.

Key-Control is another in the long list of school locker improvements developed for you at "Locker Headquarters." Berger —world's leader in lockers—offers a service that relieves you of every detail. Berger will plan and engineer the locker system you need . . . either Key-Control or standard . . . and take over all installation details right down to tightening the final bolt.

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POPULAR "C" BOILERS NOW OFFER NEW FEATURES ... NEW SIZES ... MORE ATTRACTIVE PRICES!

Now, the most popular series in Spencer's quality line of boilers is available for a wider range of jobs ... and at more attractive prices.

Improved design now makes this outstanding boiler available with standard 15" base or extra base heights, at nominal charge, for special fuel-burning installations. Four new larger models, with heavy 3" fire tubes, have been added to the line, providing greater range in application.

Here are some of the outstanding features of the Spencer "C" Boilers: water-cooled, precision-ground flue and fire-door frames, equipped with heavy cast-iron insulated doors; extra-heavy steel-plate smokeboxes; staggered boiler tubes for rapid heat transfer; service water-heating coils in many capacities.

Entire boiler line available with attractive standard jackets, insulated with glass wool, with beautiful blue-gray hammerloy finish.

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For any job—residential, industrial or commercial—requiring 1100 to 5000-sq.-ft. net load steam, low pressure, specify one of Spencer's "C" Series. *Save dollars and provide the highest quality heating plant available.*

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Dear Sirs:
Please send additional information and specifications on the new Spencer "C" Series Boilers to:

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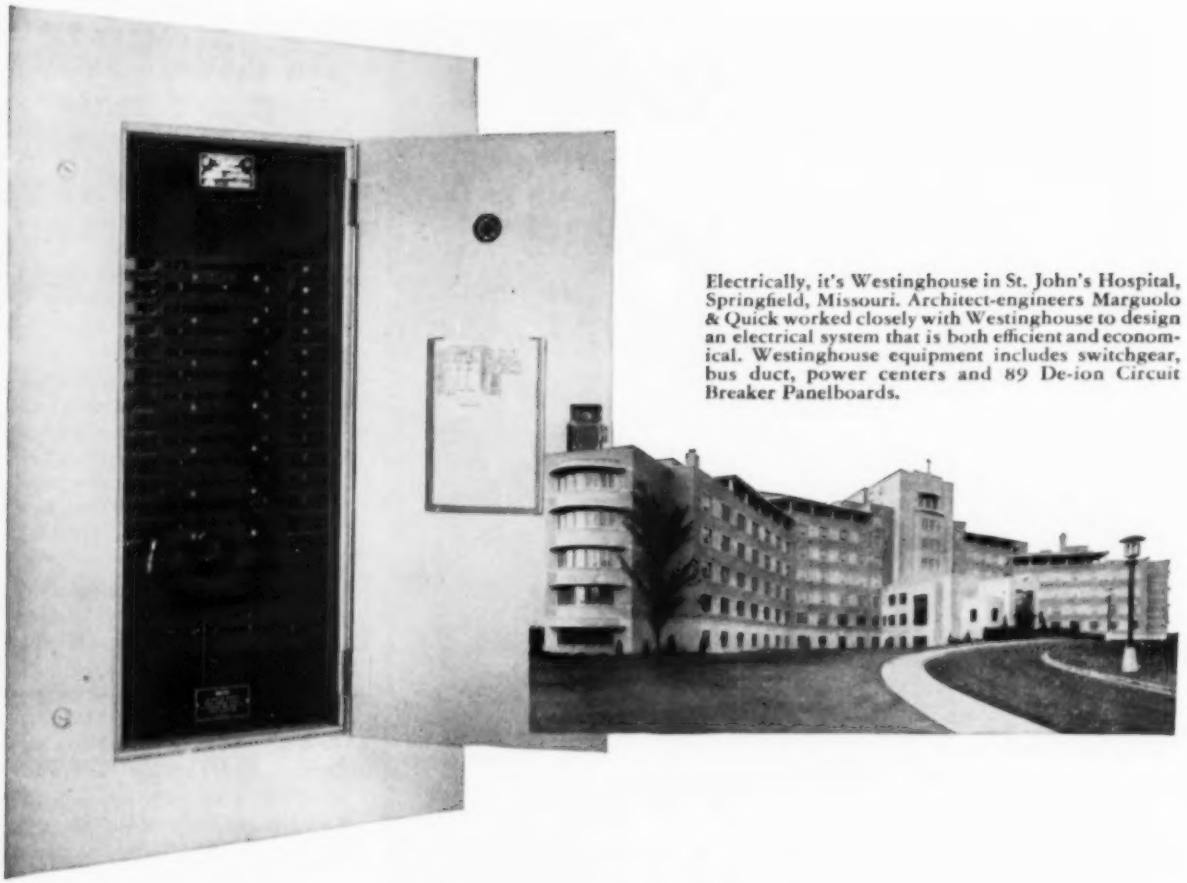

Electrically, it's Westinghouse in St. John's Hospital, Springfield, Missouri. Architect-engineers Marguolo & Quick worked closely with Westinghouse to design an electrical system that is both efficient and economical. Westinghouse equipment includes switchgear, bus duct, power centers and 89 De-ion Circuit Breaker Panelboards.

Design more safety and less maintenance into hospitals . . . with Westinghouse Panelboards

Selecting electrical equipment for hospitals demands special attention to safety and maintenance problems.

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There's a Westinghouse Panelboard for any circuit protection problem . . . in any type of building. Thirteen assembly plants give fast service and quick delivery throughout the country.

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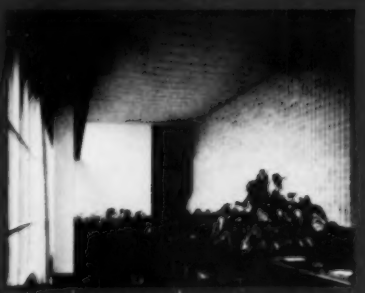
BARBER COLMAN

ELECTRIC Control Center

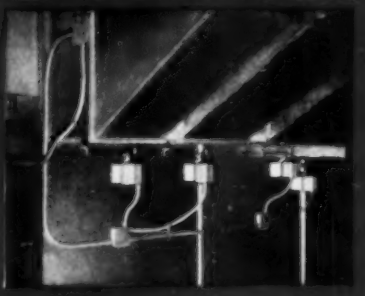
10 modern electric "Control Centers" handle the temperature requirements of CBS Television City

CBS Television City, Los Angeles, world's largest television plant. Architects and engineers: Pereira & Luckman. General Contractor: Wm. Simpson Co. Air Conditioning and ventilating contractor: Kilpatrick & Company—all of Los Angeles, Calif.

One of four giant studios, each occupying 12,100 square feet of floor space, each making unusually severe demands on the temperature control system. Combined, the four studios are geared to turn out 22 times as much "production" in a year as the largest Hollywood movie lot.



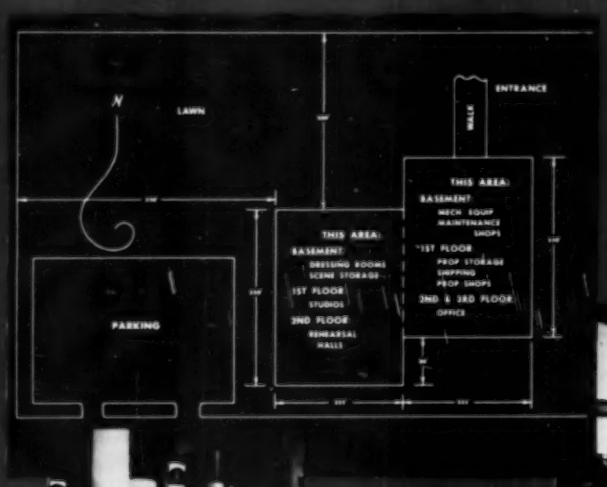
Brilliantly colored, ultra-modern design of lobby sets the stage for visitors to this outstanding example of contemporary architecture. Behind the scenes (below), Barber-Colman Zone Mixing Damper Controllers assure delivery of properly conditioned air to office occupants.



***10 "Control Centers"** throughout building simplify installation, reduce costs, permit utmost flexibility for differing needs of each section of the "City." Each Barber-Colman "Control Center" houses prewired accessories—switches, relays, transformers, resistors, etc.—and numbered terminal strips for connecting all components of each electric control system. Each system can be checked, revised, or added to at its own "Control Center."*

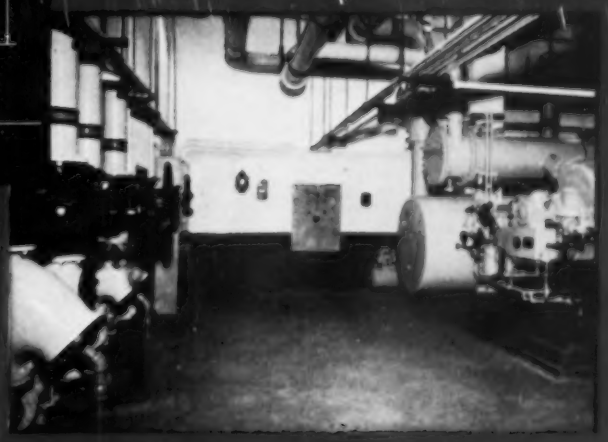
Television "City" aptly describes this unique new CBS Television production unit. Within its walls are practically all the ordinary activities encountered in a small city—plus some unusual demands on temperature control systems. It's a factory with paint shops, carpenter shops, design shops, production lines . . . an office building . . . a multiple auditorium with four huge studios, three tremendous rehearsal halls. It has 12,000 feet of exterior all-glass walls, covers 8½ acres—374,620 square feet of floor space. It's a home for hundreds of people, virtually around the clock.

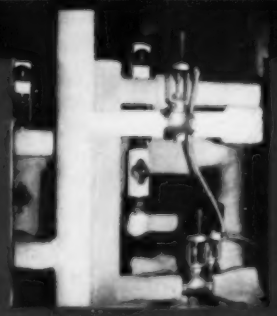
Air handling requirements called for advanced engineering experience and techniques. Sixteen fan rooms located throughout the building meet the heating, ventilating and air conditioning requirements. (Terrific heat peaks result from concentrations of light and electronic equipment.) All controls, from individual room Microtherms to three-way valves in the heating and cooling systems, are electric. All of them are components of ten Barber-Colman "Control Center" systems. Completed temperature control systems are as modern in appearance, as improved in function, as the building design. The complete story of this and other outstanding "Control Center" installations is readily available from your nearby Barber-Colman field office. For quick action, phone, or send coupon below.



Drawing (left) portrays wide range of activities centered in Television City. Flexibility of electric controls permits handling of each different temperature requirement with maximum results, minimum costs.

Partial view (below) of one centrifugal compressor and chiller at right, water pumps at left. On wall in background is one of the ten modern electric Barber-Colman "Control Centers."





Three-way motor-operated proportioning valves and two-way change-over valves handle flow of both hot and chilled water without mixing for studio conditioning.

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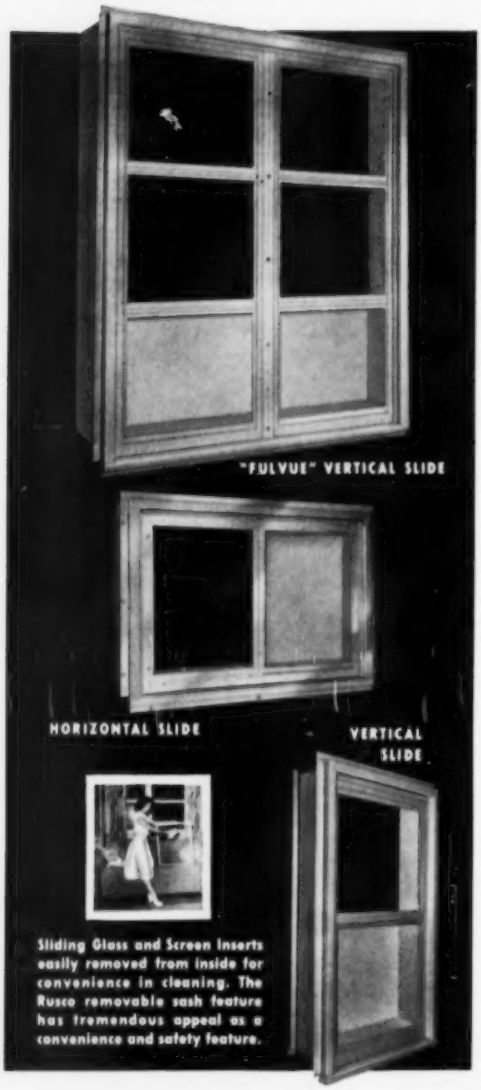
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These unique, ready-to-install windows make truly remarkable savings in installation time and costs. They can be fully installed on many types of construction in as little as *5 minutes per unit!* When you consider their low initial cost, plus the elimination of field glazing, painting and fitting of hardware, you can readily appreciate why the *installed cost* on Rusco is frequently less than that of the cheapest conventional windows obtainable.

Rusco Prime Windows are precision-built of sturdy, tubular galvanized steel, bonderized and finish-painted with baked-on outdoor enamel. Smooth and effortless in operation, they are available with insulating sash (eliminating the need for storm windows—and also an ideal treatment for air conditioning) and with Rusco's Fiberglas screens which are rustproof, rotproof, burnproof and never need painting.

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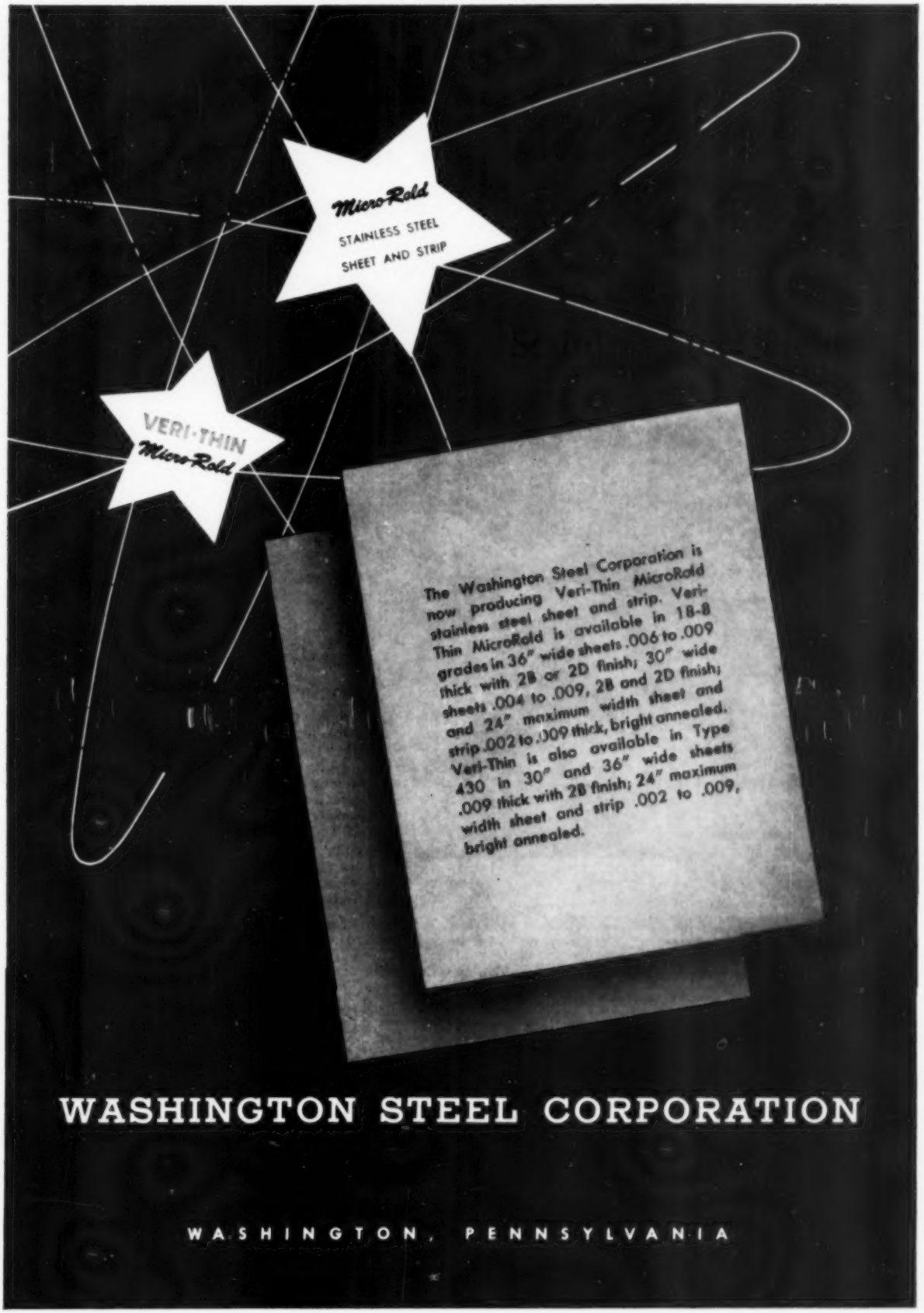
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. . . . with heavy foot traffic

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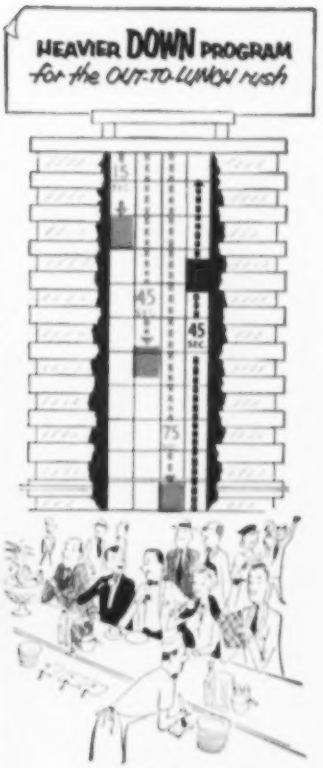
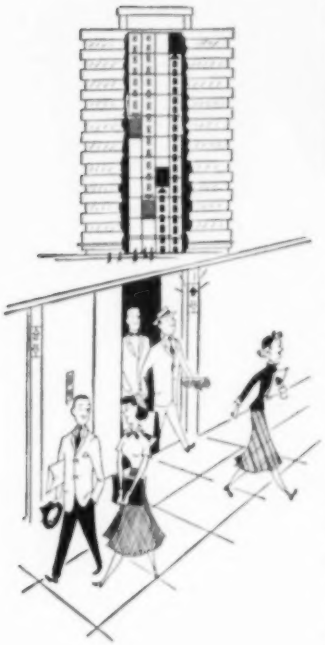


MAINTAINS MORE DOWN CARS

PROVIDES FREQUENT UP SERVICE

Car balance alternates between 3 cars down, 1 car up, and 2 cars down, 2 cars up



Autotronic—WITHOUT ATTENDANT—Elevatoring keeps service predominantly down at the start of morning and afternoon coffee breaks and lunchtime periods. At the same time, it continues to provide frequent up service.

A Heavier-DOWN program is illustrated above. 4 cars are shown operating on a 30-second dispatching interval.

The car balance alternates between 3 cars down, 1 car up; and 2 cars down, 2 cars up. This is accomplished by keeping the cars equally time-spaced. In this case, 30 seconds apart.

The down trip, with frequent stops to pick up passengers, takes 75 seconds. The return trip, because of lighter traffic demands, takes only 45 seconds.

The fast return trip and automatic features of Autotronic supervision keep the cars equally time-spaced and maintain the alternating car balance.

Another program, Heavier-UP, keeps service predominantly up at the end of coffee breaks and lunchtime periods.

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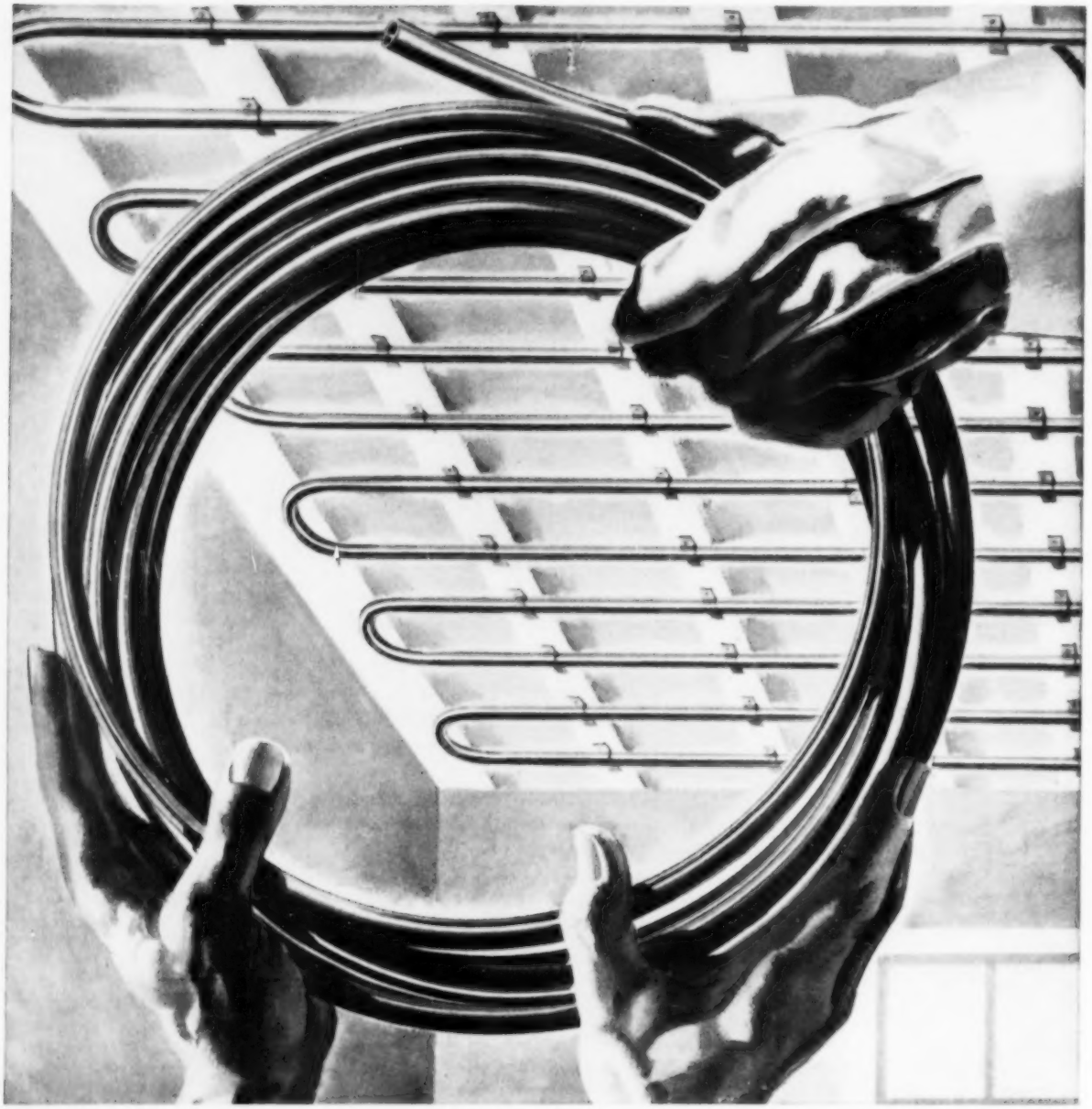

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Any way you figure it, joist construction is the most economical way to build floors and roofs. And Ceco offers two types—both fire-resistive—both engineered for economy. They are Steel Joist Construction and Meyer Steelform Concrete Joist Construction. Occupancy requirements, availability of labor and material and other factors will guide the architect and engineer in selecting the most favorable type of joist construction for each project.

Ceco concrete joist construction

Here you can expect savings over solid slab and other heavier types of concrete construction, because less steel, concrete and lumber are used . . . less labor too. Meyer steelforms are reused at a nominal rental fee. Murphy & Mackey, architects, saved $50,000.00 by using concrete joist construction instead of solid slab in the Bishop DuBourg High School, St. Louis, Missouri.

Ceco steel joist construction

Because there is less weight in steel joist construction . . . supporting beams, columns, and footings are lighter. The self-centering feature eliminates formwork and shores. Architect Harry Owen Bartlett used Ceco steel joists in the design of Remington Rand's new Chicago office building to reduce column loads and effect major savings.

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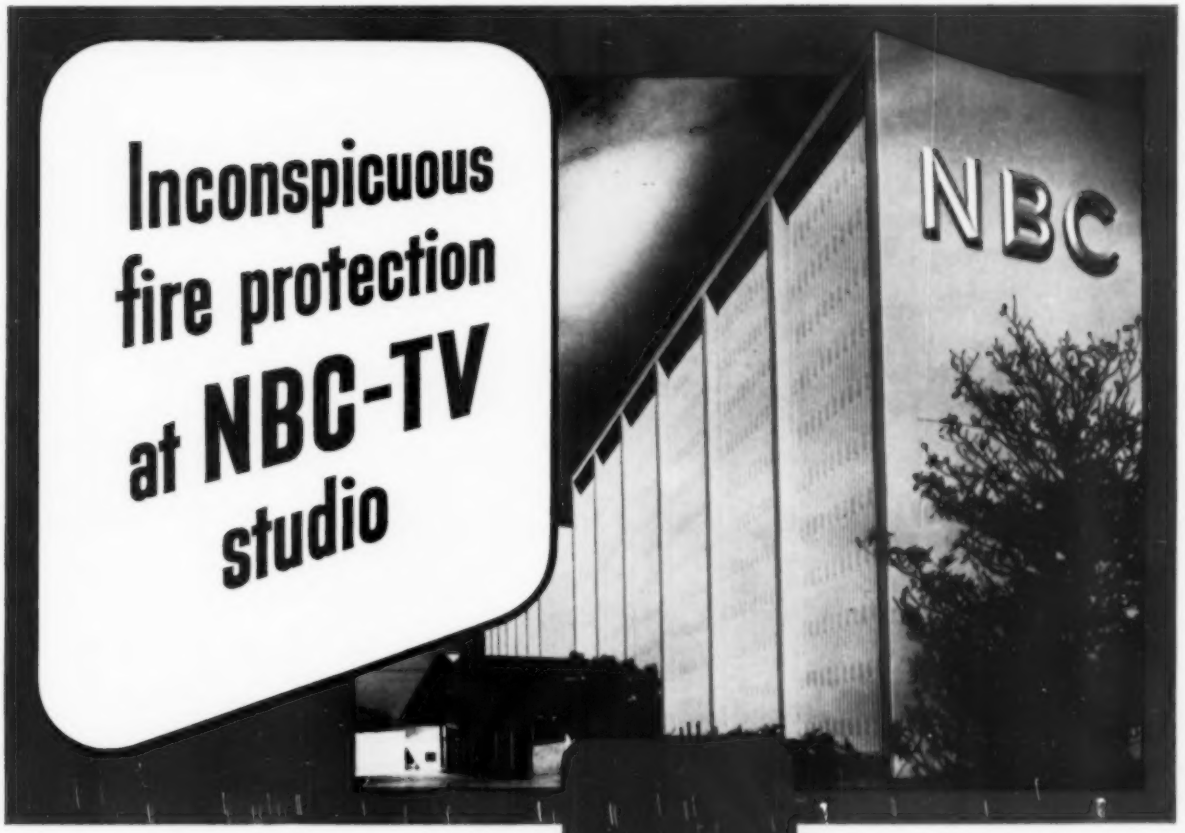
Inconspicuous fire protection at NBC-TV studio



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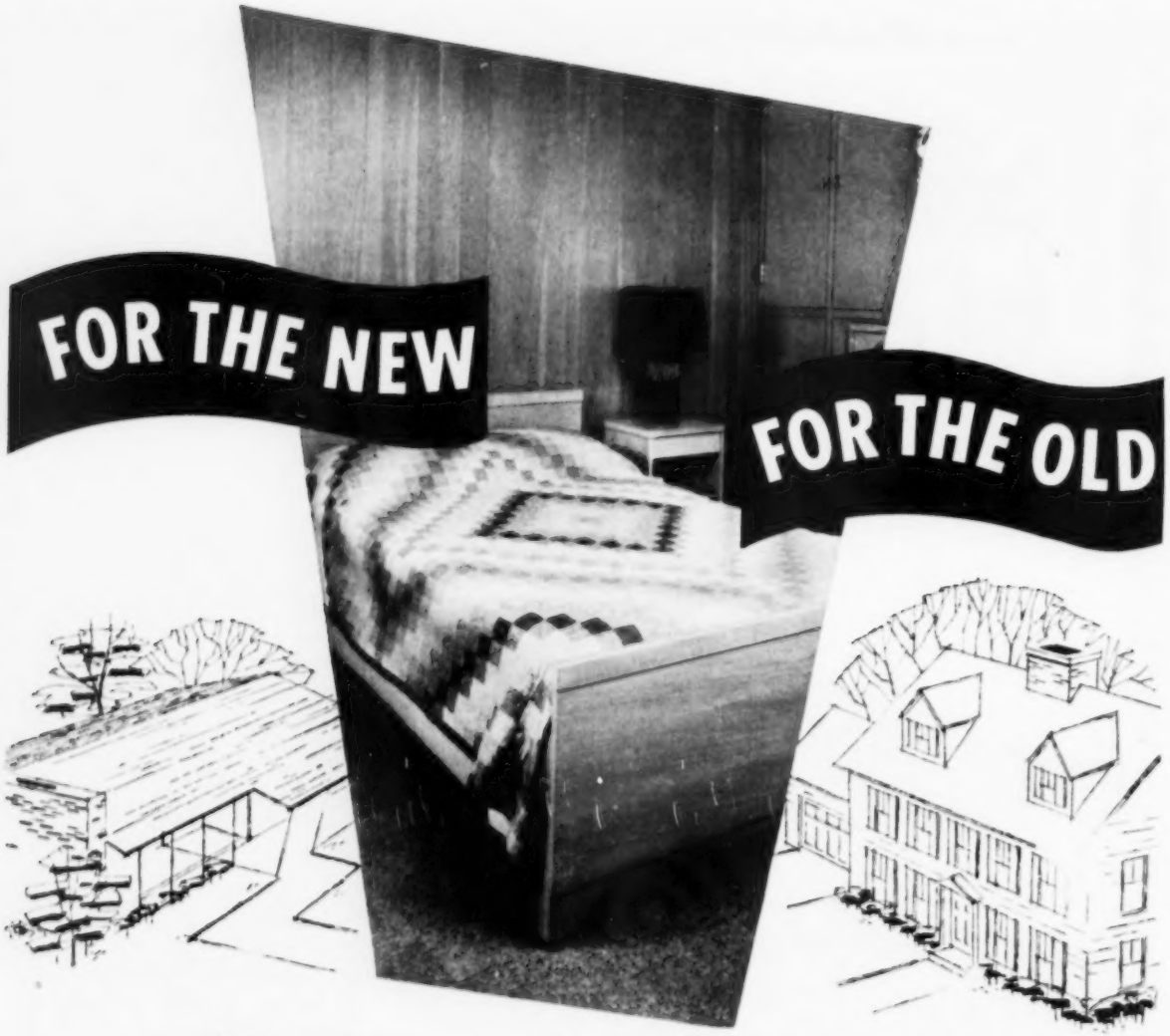

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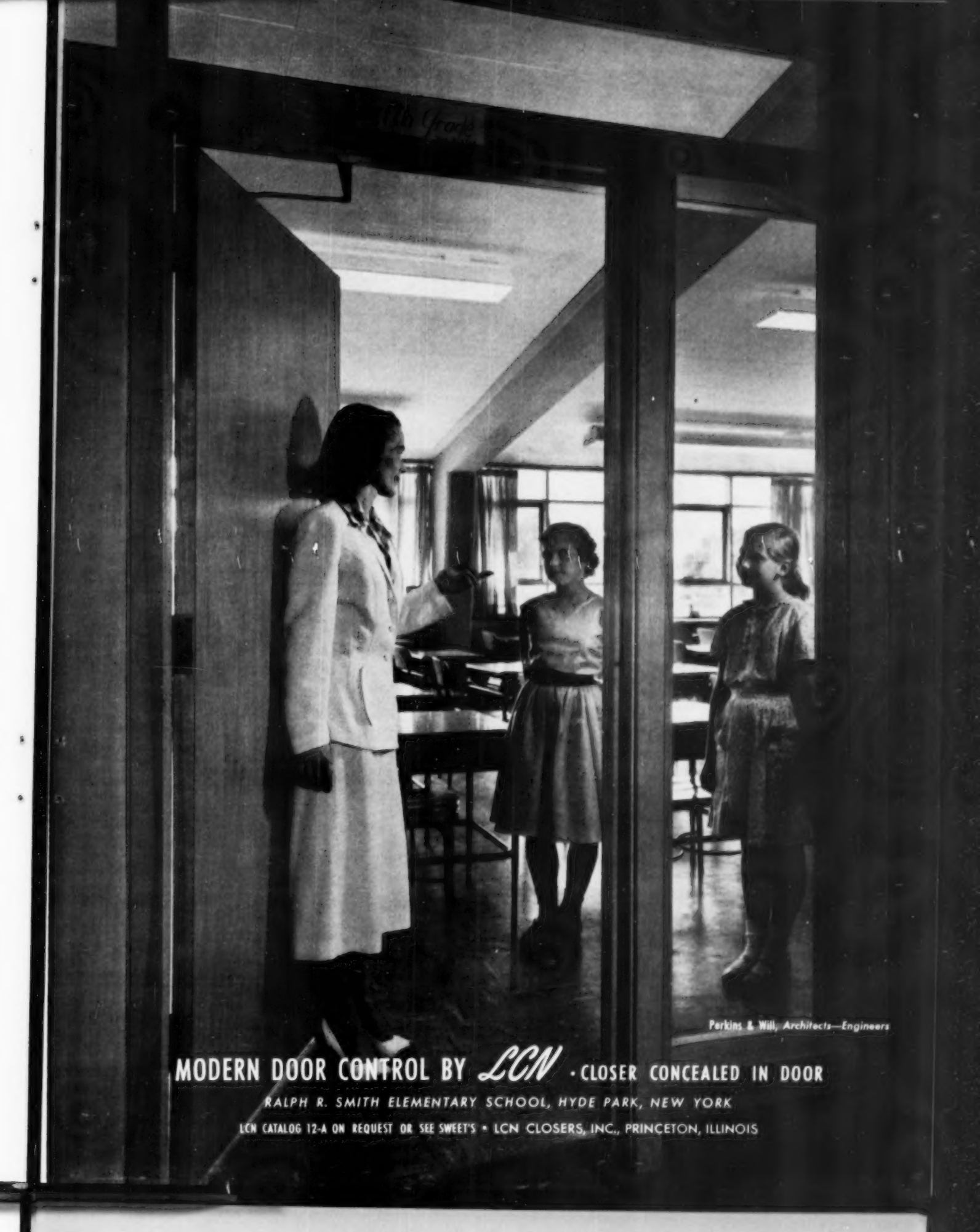

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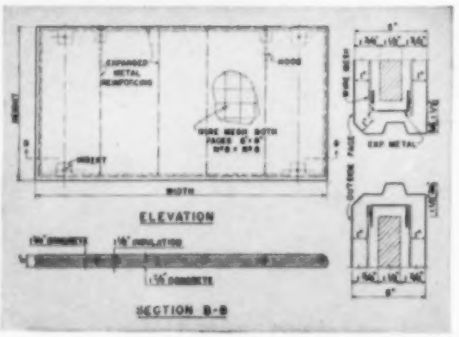
Size, texture and quality of panels produces appearance considered by many as superior to high-quality cut-stone—cost is less than usual masonry construction. Above, wall of main building; left, power plant. Panel detail, below.



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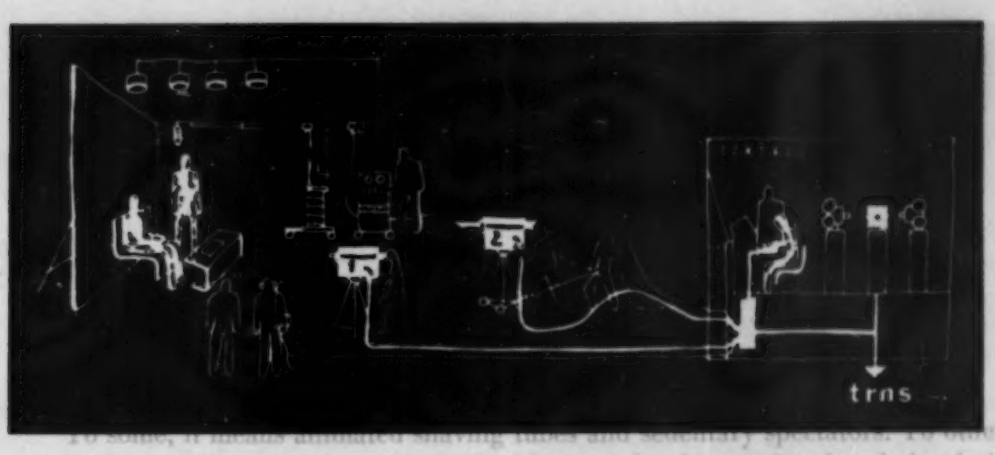


TWENTIETH CENTURY BUILDING TYPE

TV stations

a study

written and arranged

by

Editors of PROGRESSIVE ARCHITECTURE with advice of Dr. Walter J. Duschinsky, Vice-President of Unitel, Inc. (a telecommunication planning organization), and a Consultant on television station design.

introduction

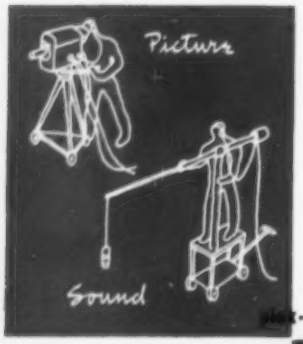
Within the studio, television creates its own world.

To some, it means animated shaving tubes and sedentary spectators. To others, it is a complex of electronics in a maze of highly-specialized operational and circulation areas. Producers, talent, and directors are all dependent upon split-second precision . . . all work within close limits of time . . . all depend upon each others' expert performance.

Commercial application of television had long been artificially restrained within the United States. Since April, 1953, when the "freeze" was lifted by the Federal Communications Commission, capital has been invested in every form of station from the rural film and newscasting set-up to the giant metropolitan originating studios. Each day the FCC receives new requests for licenses. Each day some are granted. In meeting these needs, architects are finding new and valuable commissions awaiting them, in what the Editors of PROGRESSIVE ARCHITECTURE recognize as a new building type. To date, the Commission reports 1100 new applications filed and predicts that within a decade more than 2000 stations will be in nationwide operation. By January, 1954, 80 percent of the nation will have TV coverage, primarily from the lower-income stations whose investments will range between $150,000 and $500,000.

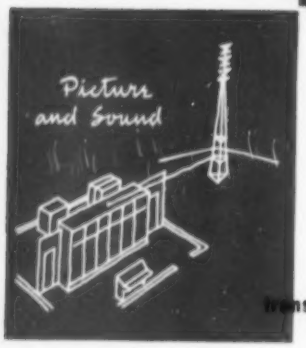
Almost everyone is familiar with some of the elements of television production. Mobile units are seen at parades, special sports and news events. In the large cities, there are often several multitransmission originating studios . . . their microwave relay stations are the countryside connecting chains. Few architects, though, have considered how closely related (or removed) is the TV station from radio production and the film studio. And while every television station differs in programming, and equipment and facility needs, each will have the elements of sight and sound transmission. Architects will have to solve problems of superheated studios, the need for perfect sightlines, traffic circulation, mechanical cores, column-free areas, and floor loading and fireproofing for special equipment. With developments in acoustics, insulating and air-conditioning techniques, the aid of lightweight materials, and improved structural systems, leaders in the field believe that TV designs will not necessarily resemble radio stations or film studios. And with thoughtful planning and imaginative design, the *administration*, *production*, and *operational* areas . . . the elements of television studios . . . may be integrated in three dimensions and differentiated from other architectural forms.

To those about to enter the field of television station design, the Editors of PROGRESSIVE ARCHITECTURE offer this study. Within this special issue, the answers to the problem are not given. Instead the reader will find some of the criteria for design. Perhaps then, structures which are expressive and freed from precedent may develop the unique quality of television.

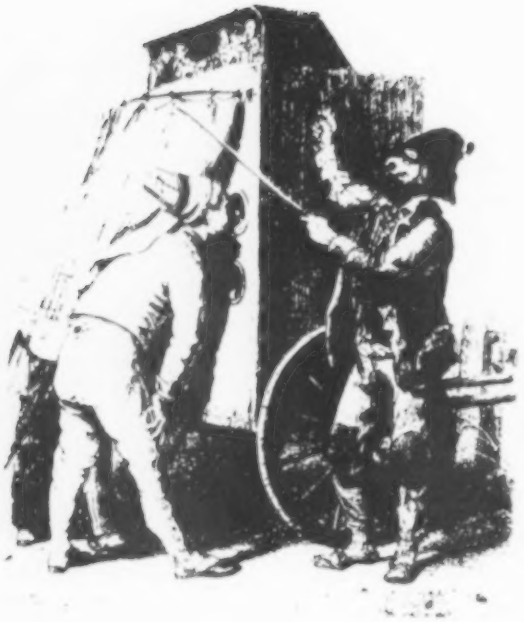


pick-up

contro



transmission



definitions

pickup

audio: refers to sound component of the TV signal.

kinescope recording: filming directly from the TV receiver.

microwave relay: network pick-up and transmission of waves less than one meter in length; transfer from studio to transmitter, or use of chains of transmitters to step up power and retransmit the signal.

mobile unit (remote): specially designed vehicle carrying TV pick-up, transmission, and relay equipment for remotely located productions.

video: refers to sight component of the TV signal.

control

control room: elevated area adjacent to the studio, housing equipment and personnel to control the video and audio transmission.

fading: a camera-control technique by which a scene is gradually brought into view or dimmed down to the black level.

monitoring: controlling the quality of the transmitted images.

shading: correcting the light distribution of the images produced by the TV camera.

transmission

coaxial cable: special hollow-metal conductor with a single wire centered along its axis by insulators.

market coverage: the areas into which the TV signal penetrates and can be received by sets in residential districts. It varies with channels, tower heights, and character of the terrain.

multitransmission: combination of the three types of transmission: remote, film, and studio.

network: an affiliation of stations to broadcast simultaneously a program received from an originating center.

UHF: ultra-high frequency; 300 megacycles and above.

VHF: very-high frequency; 30 to 300 megacycles.

background

Television, by its co-ordination of audio and video transmission, realizes the most fundamental media of communication. Man's perception of the world is by means of the eye and the ear. Television experimentation actually dates back to the discovery of selenium in 1877 by Berzelius. Every generation since has been fascinated by this idea; at almost every turn it seemed a promise about to the realized.

Television was first effected in Great Britain. During the first half of the 20th Century, two systems of transmission were developed. One reproduced an image mechanically by a rotating disk; the other was electronic. Later, as electronics were further perfected and the 60-field 525-line system improved, television became adaptable for wide transmission and clear reception. Subsequently, the pattern for receiving sets in the United States was standardized. And in the past decade through mass production, it was made commercially feasible and soon became a commodity available on all income levels.

In the realm of mass communication, many of the industry's leaders believe that television is fast becoming the ideal medium. They recognize its enormous potential for education, entertainment, and communication of current events. As a source for spreading techniques and informative material, and helping to industrialize backward areas, it could strengthen any international development program. And by operating on a national or worldwide scale, it could encourage enlightenment as opposed to ignorance, harmony in place of chaos. Its social, political, and economic implications are far reaching. David Sarnoff, Chairman of the Board, Radio Corporation of America, cautioning against underestimation of the medium of television, has prophesied, " . . . it is destined to provide greater knowlege to larger groups. It may create a broader understanding of the significance of current events, a more accurate appraisal of the men in public life, and a truer perception of our own people."

The importance of television lies in its spontaneity and immediacy. It is these unique intrinsic elements—making it possible to transmit images and sound as they occur, without delay or editing—that lends dual qualities to television characteristic of no other medium. It affords more than visual images and descriptions. Unlike radio broadcasting, which makes the audience literally dependent upon the controlled and modulated sound to form impressions, telecasting permits every member of the living room audience to see for himself—and interpret what occurs.

An early (1882) version of television conceived by Robida as a cultural medium. The sketch shows both sight and sound transmission projected in the home, using an elliptical screen with an amplifier in front of the listener (above).

Thomas Edison's "Black Maria" (left) the first successful motion-picture film studio (1891).

Credits for Illustrations: page 162

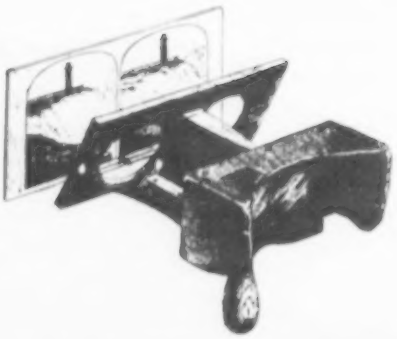
Background

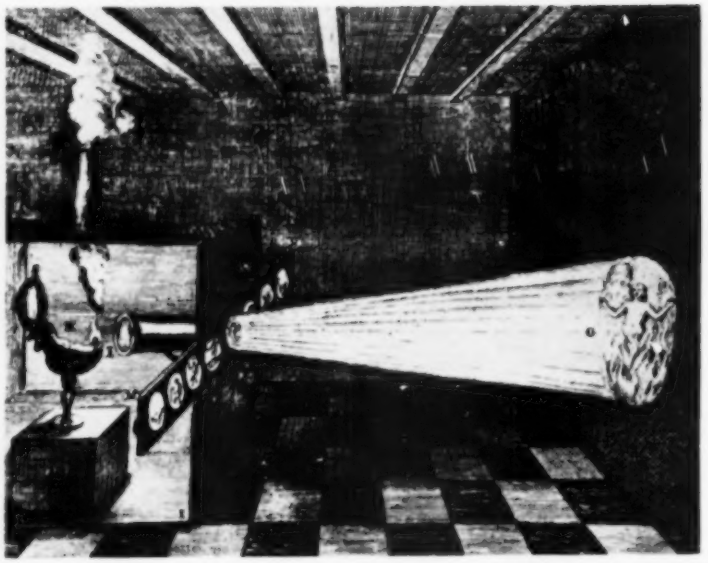
The concept and the techniques of television are not new. Various devices, from vibrating mirrors and walls of lenses, have been proposed for the rapid scanning of an image for the purpose of transmission. One of the earliest devices was the camera obscura. Within a darkened chamber, scenes in motion and landscapes were projected upon a screen for audiences to view and artists to sketch. It was perhaps the first type of "moving picture."

An early experiment first proposed by Nipkow in 1884 employed a flat, circular metal disk with a spiral pattern of holes, in front of which was a fixed lens (a system not unlike one used today in experiments in color television). By rotating the disk, each hole of the spiral passed in turn across the field of the object, so that upon a complete rotation, the entire image was transmitted.

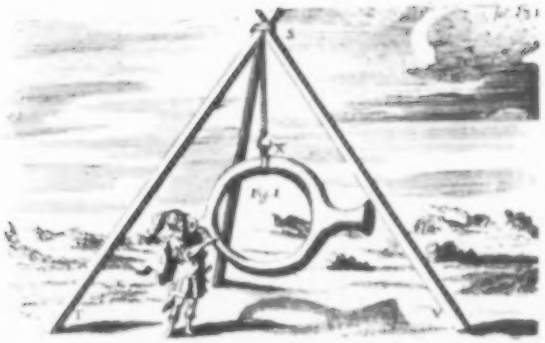
Not only did the Nipkow disk scanner become well developed in 1884, but at the same time other experiments and theoretical schemes were sketched and sometimes built in England and the United States. Robida, a Leonardo-like engineer and designer of the 19th Century, visualized "a correspondent of the epoch" (*page 79*), a man astride a camel, whose broadcasting device would permit him to transmit the important events then occurring in the Far East. As early as 1882, Robida's visions of the modern world of science included a projection of television called the "telephonoscope." With the perfection of this, images and sound could be transmitted together. And in his sketch (*page 79*), a life-sized ballerina becomes visible on the screen "for the edification of the artist." Supposedly both the projection and the tone were to be faultlessly reproduced by such a device.

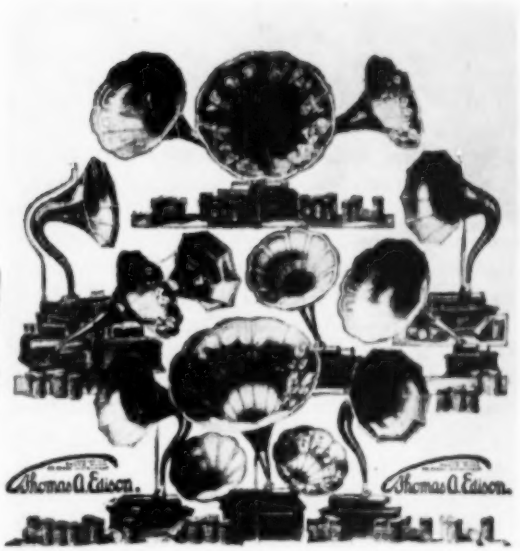
Some of the machines invented and developed by Athanasius Kircher, a famous Jesuit scholar, are marvels of science. As literal forerunners of the period, they are the genesis of many of our sight-sound projection machines. He has been credited with the invention of the "magic lantern," the predecessor of the motion-picture projector. By means of an oil lamp and a primitive reflector, in 1640, the aristocracy of Rome enjoyed a showing of slides. Everything from the mechanics of the lan-





sound





tern to the slides (detailed studies in light and shade), were built or drawn by Father Kircher. Crude as they may appear, these included all of the essential elements for projection of an image upon a screen.

In sound development, Father Kircher was equally inventive. By means of the Horn of Alexander (*left*), he explained many of the properties and peculiarities of sound. The Greek conqueror of the Ancient World was said to have used this "magic" horn, which could carry his voice over a distance of three miles. By it, the general might command his troops and direct the course of battle from afar. According to Father Kircher (perhaps anticipating the "walkie-talkie"), it was to be the forerunner of modern sound devices to be used by armies.

•

Though having its roots in the theater, television is new as a performance medium. While the staging of productions in the theater sometimes takes months, and in radio often takes days, the majority of television shows must be produced within a very limited time (in the smaller stations sometimes only hours in advance). For the live-talent productions, there is often no editing, so that the effect of spontaneity (while occasionally capricious or embarrassing) is easily achieved.

As a medium, the simultaneous transmission of images and sound constitutes the ideal communication system. It is claimed that the criterion of the good television show is—the picture alone conveys the message or is entertaining, while the sound acts to reinforce it. Though it distantly relates to viewing slides in the stereopticon, looking through a telescope, reproducing pictures by "facsimile" (telephoto transmission), and to the production of motion pictures, TV's prime advantages are *spontaneity* and *immediacy*. Production can occur without interpretation or editing. Because of these qualities, TV may achieve subtleties difficult to attain on the stage or the screen. TV is a medium far more introverted, and its techniques should develop this emphasis. For the architect, the design of the production areas might reflect this difference . . . in architectural expression, perhaps as a new building type.

the design problem

CBS "Television City," Hollywood, Calif. (above) is the completed nucleus of a 24-studio, multitransmission originating station. Architects: Pereira & Luckman.

program and policies

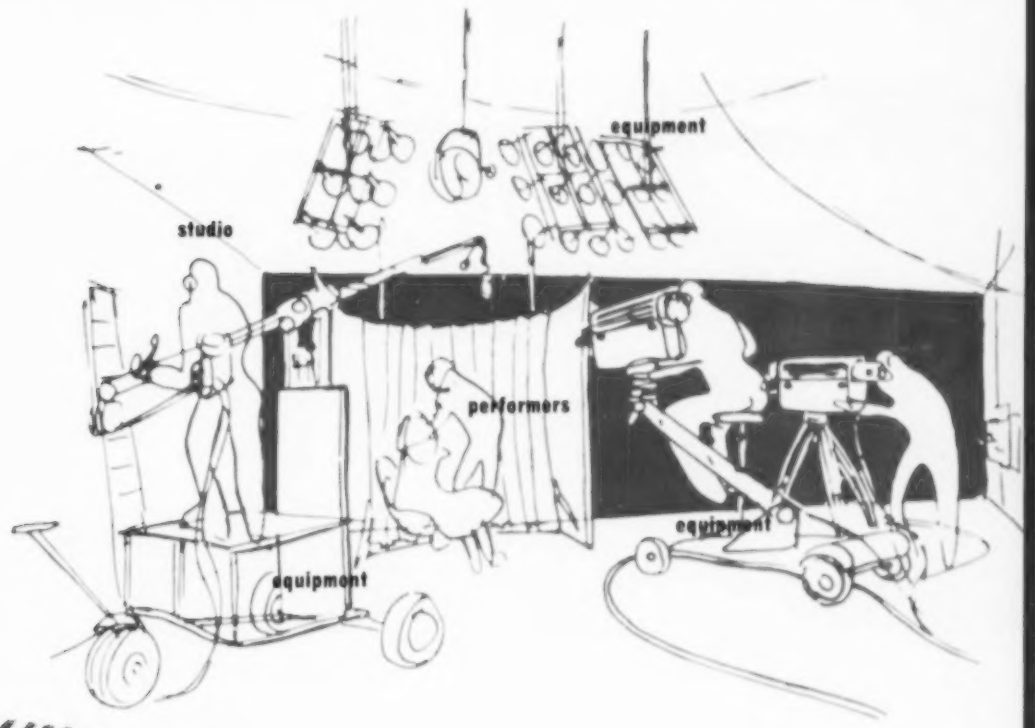
Master planning analyzes the relationship of all the elements of the design. It relates the engineer to production, personnel to programming, and the owners to their investment. It compounds the highest efficiency for the highest profits. An accurate analysis studies key figures, policies, and revenues. It affords answers to questions of programs to be offered, the scope of the market, and personnel costs. Master planning explains:

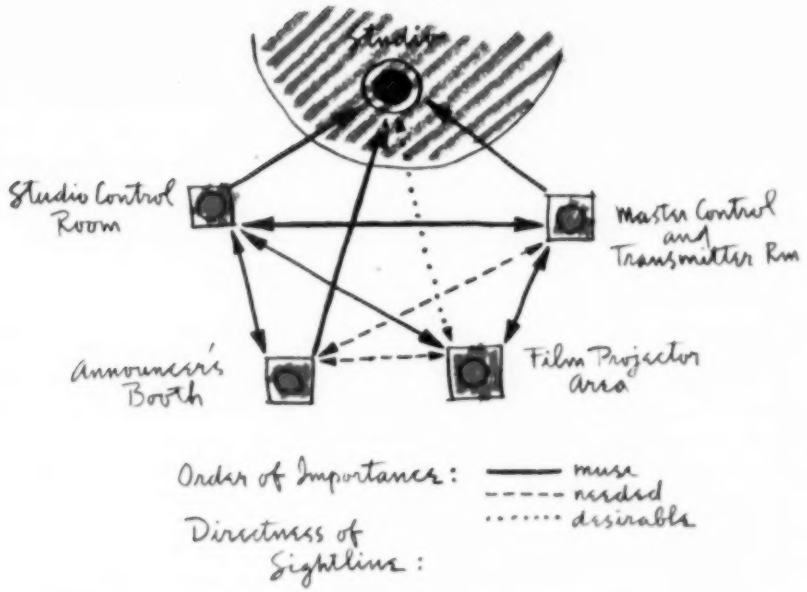
1. How the station may be designed: for the potential market, programming and management needs, and the anticipated technical developments for a projected 15-year period.
2. Co-ordinated operations and properly timed expansions.
3. Budgeting of costs and the periodic analysis of expenditures.
4. Advertising rates and time sales.

Since programming determines the character of the station, when the master plan is made it is logical to describe the pattern. Air time is established. Production types are evaluated and interview, educational, entertainment, or film programs are weighed against a market potential and the availability of talent and material. It is then possible to determine a budget ratio between network needs, local studio organization, film, kinescope, and remote-control production. Studies of employment figures, the areas and volumes of the station, studio type and location, the number of sponsors and divisional budget figures all will influence planning and programming. And finally, the comparative data on all television stations is assembled. Their relation to the development of the particular station will reveal:

1. Facts on policy of station and network.
2. Physical character of the station.
3. Time on the air and the breakdown of the programming in stages of planning.
4. Production, programming, and equipment.

Included in the surveys will be the answers to such problems as: Should the station be located in a suburban area (since horizontal space for expansion is more easily available)? To what degree are flexibility and expandability to be a part of the program? What will be the revenue and its sources? Who are the potential advertisers? Such answers on fundamental policy help to co-ordinate the master plan. With the master plan serving as guide, the program is then developed . . . the next step toward an architectural interpretation.





the design group

The planning group, directed by the architect, helps to formulate station policy. While some comparison with existing stations is possible, operations determine the exact facilities, equipment, and policy (the metropolitan station with unlimited sources of talent is obviously a vastly different problem from the rural news and film-review station). In long-range station planning, the project may be guided by market research studies. These take advantage of technological change, market fluctuations, and extra revenue sources to provide information on amortization requirements, earning capacity, and expenditures. With these at hand, the architect and the design team can evolve a broad development program to project their findings into station planning.

Included in such researches of policy and market analysis, would be equipment and facility design, personnel requirements, and budgeting systems. For this, surveys are made of:

1. The potential of the region to be served.
2. The anticipated growth of the community.
3. The level of business activity in relation to the national average.
4. Possibilities of noncompetition versus competitive broadcasting.

investment

The value of the master plan can be measured by economies in capital investment. It effects savings in operations and maintenance, it reduces unwarranted spaces, and it relocates less-valuable areas. Much may be saved by preparing area-traffic studies. By these studies, production expenses (important in long-term station operation) can be reduced to essentials.

The master plan, though, is a synthesis as well as an analysis. The architect and the design team in their studies should emphasize and co-ordinate:

Long-range Station Policy
Stages of Programming
Personnel Requirements
Location of the Station
Area and Volume Relationships
Equipment Needs.

While literally scores of market surveys produced by private sources are available, the most reliable are those of government agencies, including: *The Federal Reserve Bulletin;* the Department of Commerce bulletin, *Survey of Current Business;* the FCC bulletin, *Preliminary 1952 TV Financial Data;* and *Part III* of the FCC *Rules*.

Since last spring, when the FCC authorized permits for 351 new stations, leading executives in television have felt that a vast expansion is impending . . . perhaps as many as 600 stations by 1955. Television already reaches one half of the population of the country. More than 800 million have viewed programs since the Presidential Inauguration in January . . . more than 42 million comprise the weekly fireside audience for leading Monday-night features.

By the new FCC policy, coverage of the United States and territories is expanded; and because of it, regional networks seem most likely to develop. Such networks mean that expenditures of a small station are restricted, since income is always limited by the narrowly defined market areas. Many experienced in television planning, considering its future development, feel certain that, ". . . when the industry hits its stride, like the development of radio, most of the TV stations will be small . . . serving local markets, competing sharply for local audiences."

Perhaps if several stations co-operate in production, to cover an area from one point of origination, considerable operational economy would be effected. As such, the market area would be greatly enlarged. Small stations might band together into a network to become a major program source which few national advertisers could then afford to overlook.

Capital expenditures should be put down at the very beginning of the first planning stage. In order to estimate *investment* expenditures, the list should include: application for the construction permit; fees for technical experts; lawyers and planning specialists; cost of the site; financing costs; surveys; and costs of transmitter, studio, antenna, tower, electronic, and mechanical equipment. Those expenditures then generally considered *operational* are:

Technical
Program
Sales
General and Administrative
Insurance and Taxes
Property Rental.

In station financing, operational capital is the critical consideration . . . property is secondary. Cost breakdowns indicate that live-talent program expenses in television amount to over 50 percent of the total operational budget. Because of the growing stalemate due to high-priced talent, advertisers have begun to discontinue the "extravaganza" show, since they cannot get enough return on their investment. What happens, instead, is that clients are forced to use more film, produce different type shows, or use a source of talent less well-known to the public.

Since programming (at each development stage) is the controlling factor, studio equipment should be chosen only for immediate needs. Later, the station may be elaborated and expanded until all of the three types of transmission *(illustrated acrosspage)*. Included are:

Remote Unit
Studio
Film Projection.

This in turn determines the facilities needed to house the equipment and operating personnel. Capital investment becomes so dominant a factor that equipment must be: easy to operate, standardized, self-sufficient, interchangeable, and expandable.

In television operation the income for a station is derived from selling time to advertisers. To do this, revenue sources might include: national networks, regional coverage, and local programs. As an index (and an aid to the design team), current-time sales, spendings of local, regional and national advertisers, and trends of newspaper and radio advertising should all be investigated. Equally important are studies of the industrial and economic development of the region, and the potential market which may be (realistically) expected. In the chapters that follow, the elements of television-station planning . . . *the site, space requirements,* and *technical considerations* . . . are specifically developed and illustrated in terms of the "master plan."

network origination

local station origination

by coxial cable

by radio relay

program flow into transmitter for distribution

by studio production

by remote production

by film mailed

station pick-up and film equipment as program source

film or kinescope production

WCAU's new Philadelphia, Pa. station (above) fills one corner of a 10 acre suburban site. Vertical circulations are eliminated. Expansion needs are easily met for film, remote, and studio programming. Consulting Architects: George Howe and Robert Montgomery Brown. Designers-Engineers-Builders: The Austin Company.

location

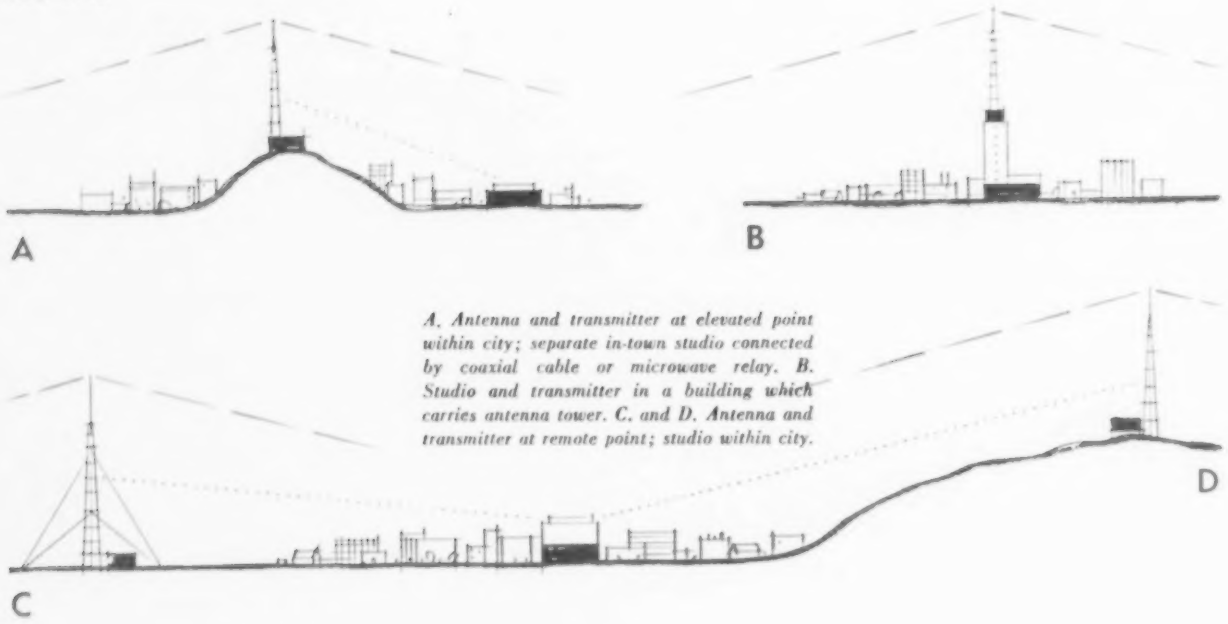
Placing the television station in the right location is all-important and critical. It is the advantage most difficult to achieve, the one most subject to compromise. Site selection, at least for the transmitter, must be based upon the coverage of the market. Not only is widespread reception implied, but also there should be coverage directed to the concentration points of the existing market . . . later to be enlarged by technological development. Studies must be made of the "geographic" limitations of the area, including the topography and shadow areas, occupational and residential patterns, population distribution and movements. Ultimately, selection then becomes an evaluation of considerations of the site, including:

1. Availability of land;
2. Zoning restrictions;
3. Land and construction costs;
4. Accessibility to the site;
5. Soil, drainage, foundation characteristics;
6. Flatness of terrain, occurance of shadow areas;
7. Access to public utilities, power for studio, transmitter, and relay buildings;
8. Expansion potential;
9. Nearness to source of programs, center of coverage;
10. Distance between the buildings of the group.

Before the site is definitely selected, existing properties and facilities should be investigated to determine their continuing usefulness. Economical construction of a transmitter building and an antenna tower might be possible with the studio and administration areas located in an existing radio station. Consulting engineers should check the ground coverage and conductivity conditions. Since freedom from interference and noise is one determinant, tests should be made for signals and random audio distractions. The severity of weather conditions should be noted, including temperature range, winds, rain, and snowfalls. By means of a site evaluation list, all of the data for the several possible sites should be analyzed. With this as a guide, the transmitter can be located and a station planned which is flexible and expandable with the least investment of new capital.

In studying the placement of the KPTV antenna for the maximum coverage of Portland, Ore., a "shadowgraph" (above, color) was made from a relief model, and a small lamp was placed at the exact position of the antenna. After erection of the station, the lettered areas of a population distribution map (above, black) showed that poor reception corresponded directly to the shadow areas. By counting dots (each representing 50 people) it was possible to determine what percentage of the population could not receive the signal well. With a later increase in transmitter power, though, these areas will be substantially reduced.

The Site



A. Antenna and transmitter at elevated point within city; separate in-town studio connected by coaxial cable or microwave relay. B. Studio and transmitter in a building which carries antenna tower. C. and D. Antenna and transmitter at remote point; studio within city.

studio-transmitter

After the site has been chosen, next consideration is whether to unite the studio building with the antenna tower and transmitter. Operational economy can be achieved by such unification. It is often posible in small communities, where few live-talent programs will originate, to combine all the facilities for origination and transmission within range of the center of the town. In planning, several alternatives are possible:

1. *Studio and Transmitter Together.* As the most desirable solution, the transmitter would be located to provide the shortest distance to the antenna tower, especially in UHF where transmission losses are great. Such planning is the most economical, since no duplication in facilities, personnel, and equipment occurs.

2. *Studio Separate from Transmitter.* While this arrangement is often found desirable, increased capital investment and operational costs would have to be considered since special crews, and additional equipment are needed. Within this fundamental division, three relationships are possible:

(a). The transmitter and antenna tower may be located on top of a high building in town, while the studio and associated facilities are at a nearby, convenient location. Connection between the two would be by microwave relay or coaxial cable. For relay linkage, though, unobstructed sightlines are required.

(b). A transmitting station may be included with a radio transmitter, and its antenna placed on top of the existing tower structure. Often even an existing radio studio may be expanded for TV use, although this is never completely satisfactory.

(c). A separate transmitter building and tower may be built at a remote spot, while the studio and its facilities may have urban location. In certain areas, film projection facilities may be at the transmitter site . . . reserving the in-town studio for live-talent shows, interviews, and forums.

Where high elevations are used for the transmitter, questions of transportation and available utilities become critical. Climatic conditions may be severe. At the higher elevation, capital expenditures may rise sharply. Special auxiliary equipment must be provided for emergency operation. Approach roads must be built and fuel tanks and other installations constructed, increasing the initial investment. This may prohibit the use of a site otherwise seemingly ideal.

•

An analysis of television-transmitting facilities, by J. P. Taylor for *Broadcast News*, outlines the following fundamentals, applicable elsewhere:

1. Antennas in UHF are more critical than in VHF. The height should be over 500 feet to reduce shadows, roughly half the length of "line of sight" shadows.

2. Hills and mountains produce shadow areas in transmission.

3. Population distribution must be studied before the antenna site is determined. Shadow areas (*see illustration*) should fall into thinly populated regions. *Coverage of the market* is most important in site selection; if possible, the center of the market should be chosen. Often such a location is unavailable due to zoning restrictions or real estate costs. Perhaps a building may be chosen whose structural system can be reinforced to carry the antenna tower.

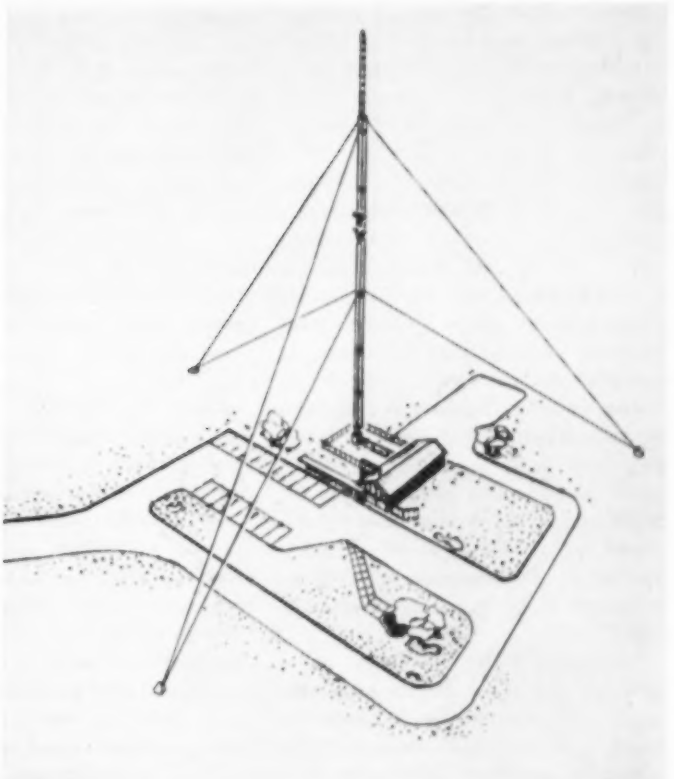
4. For operation at mountaintop stations, a remote-control system from a centrally located studio building might reduce operational procedure and costs significantly.

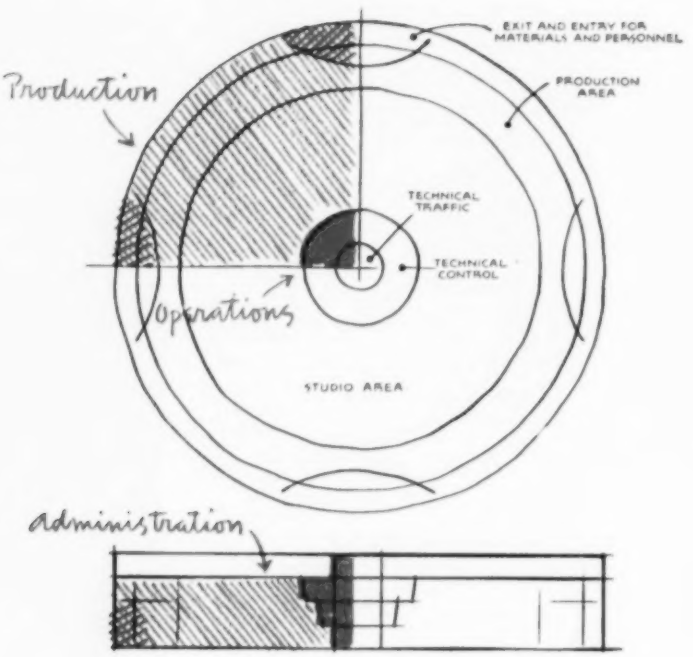
One of a chain of relay stations designed to beam London TV programs into the English Midlands (left). The 100' lattice-steel mast supports two dish-shaped aerial reflectors which focus waves into a narrow beam and direct them to the next station.

Airview of the television station atop Mt. Wilson, Calif. (below) which is ideally located for full coverage of the Los Angeles market area.

A basic TV station (right and below) *in which the studio, transmitter, and the guyed-antenna tower are closely related at the site.*

Plot Plan





general considerations

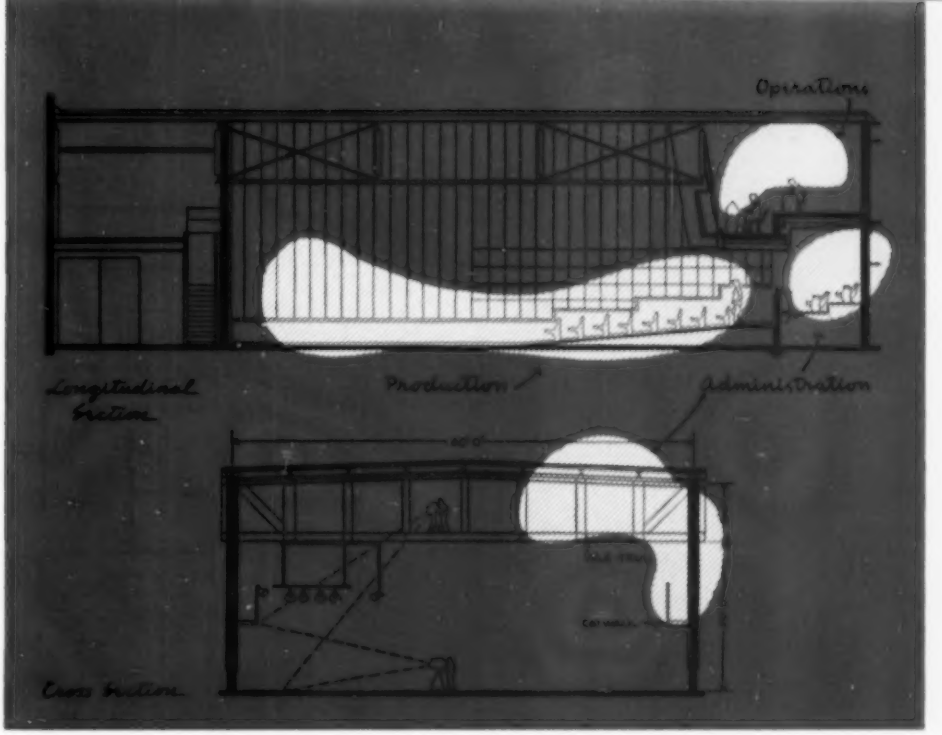
The most important planning aspect within the television station is the need for speed and split-second timing in production. Nothing must interfere with this; everything in the physical plant must recognize it. This basic criterion makes the following general considerations important:

Sufficient Space. Areas must be adequate not only for average, present broadcasting needs, but also to accommodate peaks of activity and possible expansion to serve future growth. Sight lines from control positions, camera movements (both horizontal and vertical); cross-traffic of equipment and personnel . . . all must be planned with sufficient space so that operation is unimpeded under either normal or peak conditions. In relation to future needs, the telecasting plant must be designed so that its physical structure can expand with potential-market programming stages and foreseeable technical developments for the 5- to 15-year planning period.

Undisturbed Traffic Flow. Because of the speed and complexity of production (true in all communications buildings, but especially in television) the smooth flow of traffic is a critical consideration. Specialized traffic circulation patterns must be studied in terms of the *administration*, *operation*, and *production* departments; equipment, scenery, and, at times, visitors. It is generally believed that a horizontal traffic pattern is most convenient. This is not always true however, for a multi-level scheme often proves best for smooth and co-ordinated traffic flow, thereby reducing intercommunication problems.

Space Relations. The arrangement of areas will be dictated by functional relationships, determined in turn by the character of the station and the type of broadcasting. Sight lines will control many room relationships; quick movement from one to another will determine others. A "railroad" arrangement of rooms will seldom meet the stringent requirements of a functional and utilitarian station. Once the purpose of each area is analyzed, and its co-use with others, the architect and the planning group may decide which areas are to be joined (to be integrated horizontally and/or vertically) and relationships of volumes, levels, and locations. The inter-relationship of spaces must be co-ordinated *three-dimensionally.* In a television station the easiest possible use of technical facilities is important, and clear sightlines for wide-camera angles and unobstructed control positions must be maintained. When one considers, with these needs, the demand for peripheral space and the advisability of a central control core, it becomes evident that intermediate areas must be woven together in three-dimensions, by setbacks, balconies, and shelves. All of these possibilities must be studied by the architect, again keeping in mind not only present needs, but also possible growth. A too-tightly interwoven scheme may be impossible to expand.

Flexibility and Expansion: Certain spaces such as rehearsal rooms, waiting areas, storage, and shops must provide maximum flexibility, as they are keyed to the program and the development stages of the television station. If the skeleton of the building is planned to provide long spans, proper column spacing, and walls free from mechanical attachments, such flexibility may be achieved. Storage facilities might be planned not only for scenery storage, but also to include assembly shops for scenery erection and production. And when expansion is contemplated, those areas needing it the most would include: studio, dressing rooms, rehearsal rooms storage areas, green rooms, and production areas. Above all, the potential of a studio depends upon a quick and easy conversion of spaces and volumes.



WCAU's Studio One affords clear sightlines to the stage from the two-level control room, the client's booth, and audience seating (above). *Deep trusses spanning the studio for filming and mechanical equipment, might also include administration areas* (right).

Typical requirements of a one-studio TV station, within the framework of an existing building, are solved to provide separation from administration areas and complete operational control (below).

the station

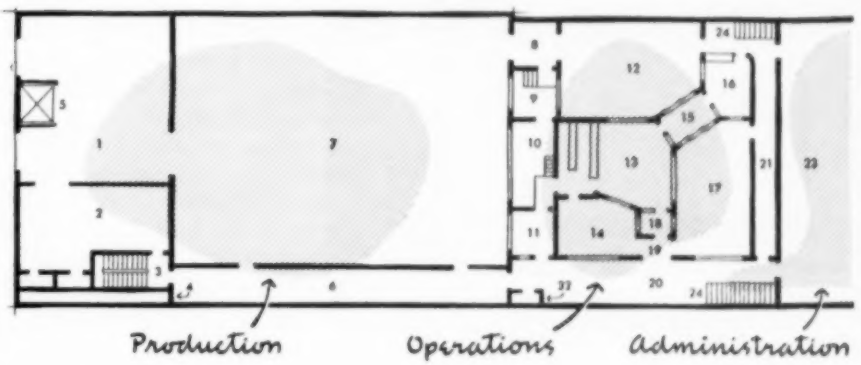
Television-station planning is categorized by its areas of *administration*, *production*, and *operation*. By their definition, circulation patterns and the inter-relation of functions are simplified. As such, it should provide the basis for an architecture which is expressive and utilitarian.

In the pages that follow, each of the major components is more fully developed . . . illustrated by selected examples.

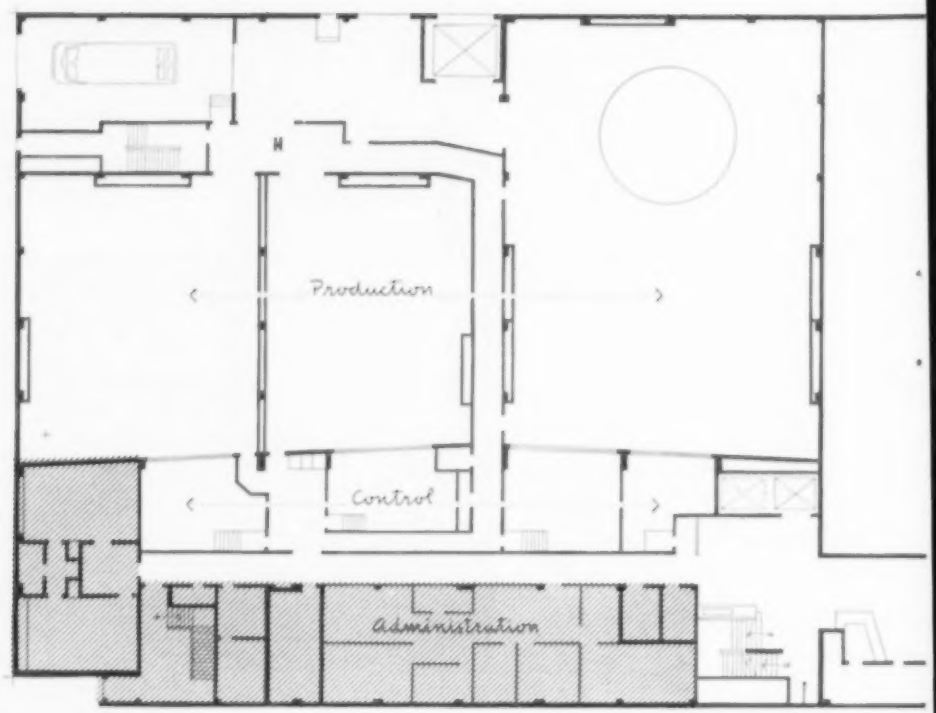
Administration areas, the technical and clerical offices, libraries, conference rooms, and public areas, may be grouped or subdivided. There will be private as well as public circulation to integrate them with elements of operation and production.

Production includes the large, column-free studios, workshops, dressing rooms, and the storage areas. Though independent in function, all operations are controlled by directive personnel, using video and audio technical aids. Free camera movement, superheated studio areas, and clear sightlines are the critical conditions.

Operational areas are for technical control and traffic. Emphasis is placed upon coordination and intercommunication. With its "technical core," there are studio control rooms, announcing booths, and film-projection rooms.



1. scenery, prop delivery, and storage
2. carpentry and model shop
3. stairs
4. duct space
5. elevator
6. corridor and sound lock
7. live-talent studio
8. sound lock
9. announcers room
10. studio-control room
11. observation room
12. radio studio and simulcast
13. master control room
14. studio (radio)
15. recording room
16. control room for radio studios 12 and 17
17. studio (radio)
18. announcers booth for radio studios 14 and 17
19. sound lock
20. green room—lounge
21. corridor
22. lavatory
23. entry from administration area
24. stairs to auxiliary facilities



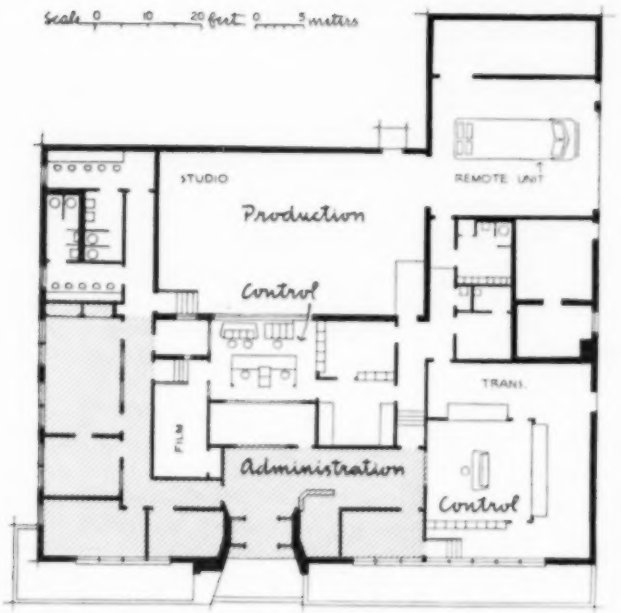
WWJ's TV station in Detroit, Mich. (above and left) has separate areas of production, operations, and administration in a windowless building where technical and executive personnel intermingle freely. Architects: Giffels & Vallet, Inc., L. Rossetti.

administrative areas

As one of the three major elements in planning the television station, the administration unit, probably located at the studio, includes areas for private offices, related conference rooms, and clerical files, general typing and accounting spaces. There may be, in addition, reference and record libraries, and lounges, reception and waiting rooms for the public and press. Good lighting, efficient arrangements, and flexibility are as important here as in any office layout. But rapid communication with the studios, control and production areas are the important demands in planning

Management in TV stations must be closely related to control booths, film-projection rooms, and areas of studio production. The use of peripheral space around the studios is the most common solution *(see above and acrosspage)*. To effect an even closer co-ordination, private circulation for the clerical and executive staff might be advisable. One location would be in the depth of the trusses spanning the studios, an area often wasted or relegated to mechanical equipment.

The offices . . . and their sometimes elaborately developed administration facilities . . . may vary in size and complexity. The design team in its planning analysis must



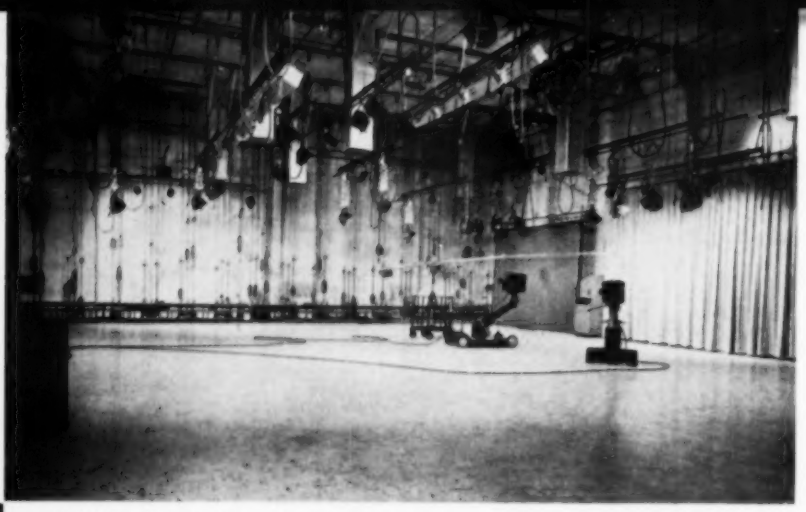
Miami Valley Broadcasting Corp., Dayton, Ohio (left) is a multitransmission-type station with a private administrative circulation for direct contact with the areas of control and operations. Engineers-Builders: The Austin Company.

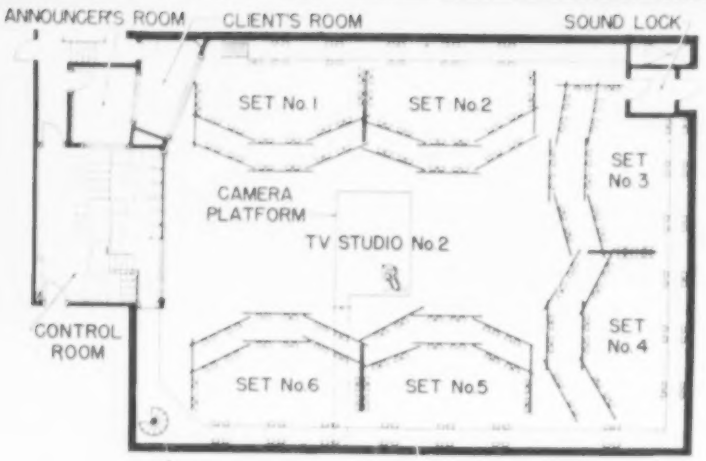
consider the nature and extent of program facilities, as well as the character of the station in the regional network. In other words, exact requirements for the administration unit of the station become a function of the type and scale of broadcasting operations. Office and administration areas are usually best when joined directly to the studio and transmitter. There may be instances when it can be completely separate. If sales activity is found to be more efficient in another location (possibly closer to the center of town) at least part of the office space may be moved there. Operations may be combined if another business or activities exist under the same ownership. They may, too, share office space with other television networks.

Whatever the location, well-planned office space . . . not just left-over areas . . . is a necessary basis for the efficiency of the station. Only by careful planning can management and the architect determine the precise needs. Only by planning can they evolve a well-integrated and workable solution.

TV station KPIX, San Francisco, Calif. (right) *is literally a "workshop" for television production. In a design emphasizing traffic flow, a record-reference library becomes part of the administration unit to provide an economical, efficient use of space and co-ordinate technical operations. Architect: J. Lloyd Conrich.*

Production costs are often more than 50% of the station's operational budget. Contrast in the production set-ups of two stations is seen at WTVJ, Miami, Fla. (right), Architect: A. Herbert Mather; and at ABC-TV New York, N. Y. (below), Architects: Carson & Lundin.





production areas

Production areas are planned for operational perfection. The keynote should be efficiency. These should be areas well coordinated and equipped . . . areas to discourage the use of high-dollar value studios for scenery, prop, and equipment storage.

Almost every studio building today is rectangular, more because of convention and preconception than realistic production needs. In this section we may see how the technical features determine the forms of walls and ceilings, while the elements of production determine the shape of the volume.

The Live-Talent Studio. All types of complex live-talent productions take place in this studio, often as large as 15,000 square feet and three stories high. There must be provisions to fly scenery, hang lights, and seat 300 to 500 spectators. Production proceeds in a clockwise (or counterclockwise) direction (*see plan above*), and often more than a dozen sets are used in sequence.

Until recently, many large stations used converted warehouses as substitutes for live-talent studios. Operations were sometimes limited, though more often compromised, since planning of the studios rarely included:

1. A close relationship of studio control booth to the scene of production.
2. Absence of obstructions between light-bridges, flys, and the ceiling.
3. A floor not confused with cables.
4. Depth of the trusses not a wasted volume.

The Interview Studio. Here a comparatively small area, not necessarily square or rectangular, provides production spaces for station personnel to conduct forums, newscasts, interviews, and commercial demonstrations. Since live-talent programs are the most inviting aspect of television shows, originating stations in their earliest development stage will usually have an "interview" studio.

Staging And Acting Area. Staging areas include spaces used for setting up scenery and acting. Sets can be put together on the studio floor or in the station workshops. To expedite camera movements and to speed production, the clockwise, counterclockwise, and "nesting" (sets within sets) systems have been found most adaptable. The area in front of the scenery should have side and rear aisles and space for general free movement. Passage for personnel should be unhindered. Television production might emphasize the simplicity of sets, not only in materials, but in line, form, and color.

Camera-Movement Area. In front of the set is the camera-movement area. The electronic camera picks up the action and sends its impulses to the transmitter. Its movements (in all directions) are much the same as the camera cranes of the large film studios. At present the camera-movement floor area is not free, because of the heavy camera cables. In large studios, the use of overhead cables, supported by V-shaped rubber cords, is one workable solution. In the giant studios, though, the use of cable-free cameras, operated by batteries, sending signals to control equipment, probably will become a production necessity.

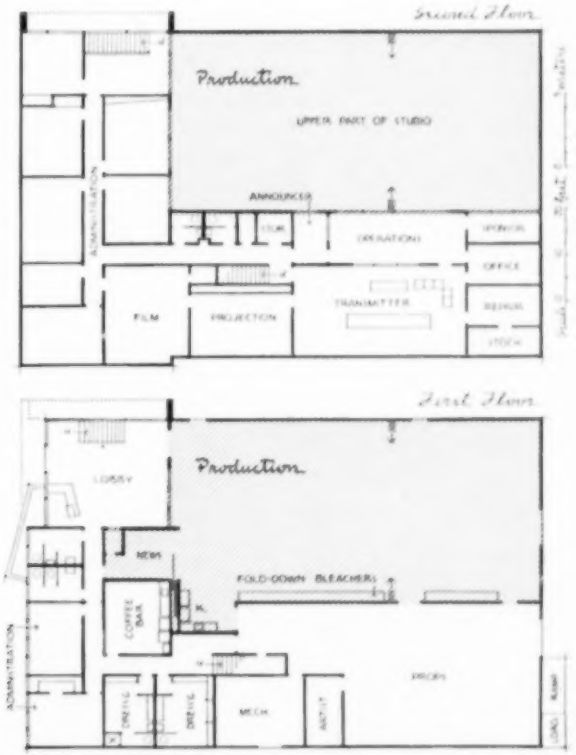
The Camera. The value of any camera is doubled by its flexibility. The movement of the camera inside the studio should be unrestricted by the height or the shape of the studio or by any floor obstructions. Many stations, often those with the best equipment, fail to exploit their potential to the fullest because of inflexible feeding lines or the inadequacy of dolly mechanisms.

Film Equipment. The easiest way to provide programs in the first stage of station development is by motion-picture film. It often accounts for 80 percent of the total program time. Because of the staggering costs of live-talent production, it may see even greater use. One or two projectors, a film camera, a slide projector, and a film-control monitor comprise the greater part of the film "basic buy." And a projection room, film-projection areas, vaults, darkrooms, cutting and preview rooms later may extend the scope and complexity of the fully-developed studio.

Audience Participation. In order to stimulate the actors and also give the viewers a greater sense of movement, audience participation has been found desirable. For production in the interview-type studio, a movable-scaffold bleacher arrangement *(studio KNUZ, below)* utilizes the studio space without obstructing floor area permanently. Though opinion is divided on questions of viewing galleries, sponsor booths, and public areas, it is generally agreed that visitors should not be permitted to obstruct the operation and production efficiency of the studio within areas of studio control.

At NBC's new TV studios in Burbank, Calif. (above), audience seating is above the stage level; lighting and sets are "flown," to free camera movement area. *(See page 118.)*

KNUZ-TV, Houston, Texas (right), is a station designed to be flexible and to operate with a minimum of technical personnel. Within its production area 300-600 persons may be accommodated. Here rehearsals and production occur simultaneously. One studio, 40' x 50', has a removable bleacher arrangement in the side wall, and space is divided by an acoustically-treated folding partition. The more permanent sets . . . the newsroom and the demonstration kitchen . . . are centralized, in direct view of the public. Architect: Bailey A. Swenson.

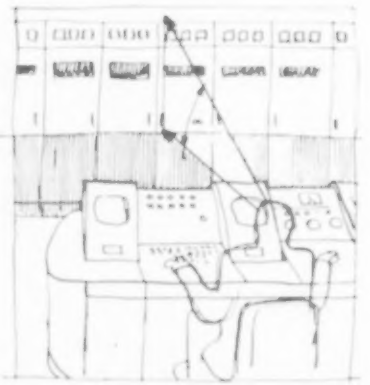


operational areas

Centered in the technical-control rooms and the areas of technical traffic are the station operations. By a complete dissociation from production and the units of administration, often the most workable solution is provided. Within the "traffic core" technical traffic may be vertical as well as horizontal, but in order to eliminate bottlenecks and cross circulation, control areas should be accessible at all levels. Technical traffic spaces and cores should be designed to provide exits and entrances to their related areas. At the same time, they should be large enough to permit the movement of properties and personnel.

Technical-Core Planning. For the small station, the more compact and closely knit the technical core the more efficient will be the station. Close co-ordination of all technical facilities (*as Station,* KPIX *above)* reduces the number of operating personnel needed, since it affords direct sightlines to several positions of control. A close grouping allows a standard trench grid to be employed under the entire technical area. The circular scheme for a television station, designed for ideal circulation patterns and sightlines *(page 90)*, is planned for the shortest equipsible cable lengths and mechanical equipment runs. By technical-core planning, maintenance and operation are greatly simplified and co-ordinated, unnecessarily long corridors eliminated, and elements of the design concentrated. Through core planning, investment capital and general operational expenditures are often reduced.

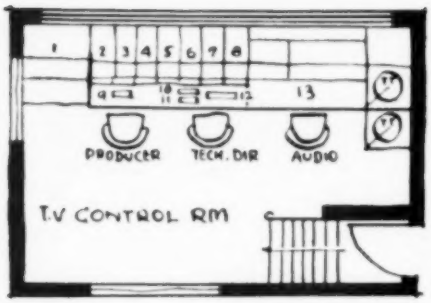
Video Control. Control equipment utilized throughout the studio is located mainly in the master-control rooms and the film-production areas. There are literally dozens of pieces of equipment, from preview monitors and switching units to devices for camera and film control. Architects have found that costs often can be reduced and production improved by the more simplified arrangement of units. *Clear sightlines are critical.* For long-term operation, the success or failure of a television station may hinge upon well-designed planning for visual intercommunication. Any design feature, any planning or technical co-ordination device which the architect can introduce (to relate the control room,

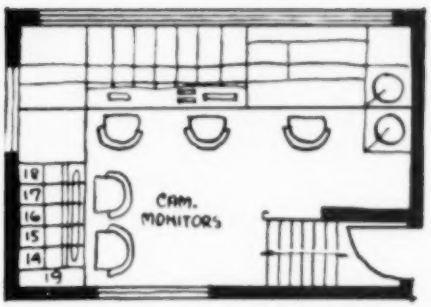


Control-room sightlines must be direct to production areas. Sketch shows how operators' vision may be obstructed by equipment hung from ceiling (left)*; but if transmitter control console is as high as the studio console, all instruments may be easily seen* (right).

At Du Mont Tele-Center, New York, operations are further simplified by channeling audio and video transmission into separate control rooms.

The studio control room may be decentralized (below, left) with camera monitoring and shading operations handled in a separate master control area. But for centralized operations (below, right) producer, director, and monitor operators are all grouped together.





1. light-control panel
2. preview monitor
3. camera monitor
4. camera monitor
5. camera monitor
6. camera monitor
7. line monitor
8. preview monitor
9. director's panel
10. proj.-room remote control
11. tech. director's panel
12. switching and fading
13. audio console
14. camera monitor
15. camera monitor
16. camera monitor
17. camera monitor
18. film-camera monitor
19. patchfield

the announcer's booth, and the film- and master-control areas), strengthens the link.

Master-Control Room. The master-control room and the transmitter-control room should adjoin the studio control and the studio itself. They should, if possible, be accessible from the film-production area. For direct sightlines, architects have sometimes found it advisable to elevate the floor of the studio-control room slightly above that of the studio. Windows might be designed so that operators in charge of studio production also could see adjacent control rooms, studios, and the film-production unit. The importance of good visual communication cannot be over-emphasized. At Station KNUZ-TV, Houston, (*page 95*), the architect located the transmitter room adjacent to the control room so that, ". . . one engineer, trained in telecasting, could perform several duties."

Control Room for Interview Studio. All of the related equipment needed for video and audio control is located here. As such, it becomes the area for the directing and operating personnel, so that an unhindered view of the entire studio and its many related areas becomes a prerequisite. Sightlines should be provided to:

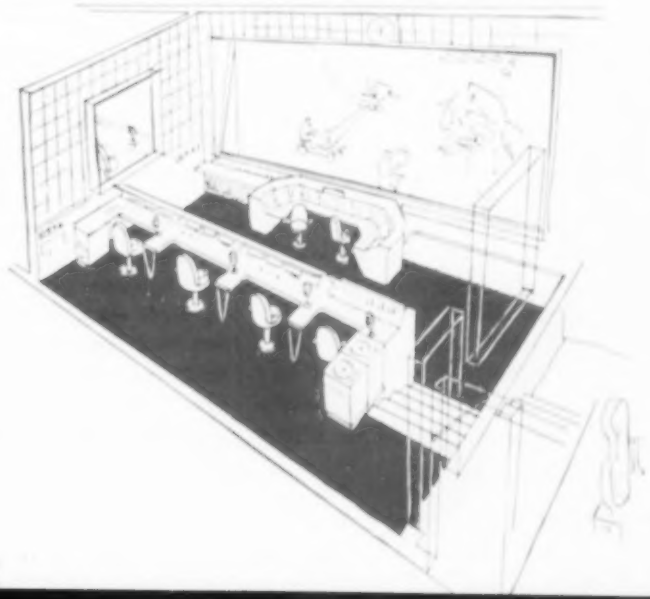
The staging area;

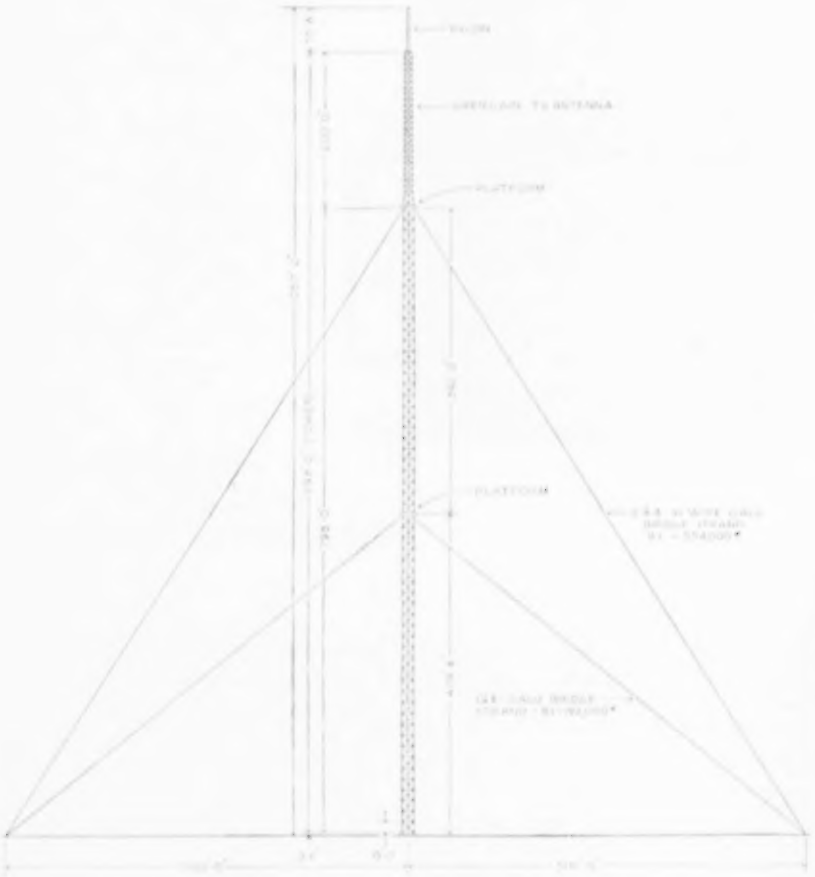
The camera-movement area;

The light-control board.

In the interview studio, too, are the specialized switching devices for the producer, the technical director, and audio-control positions with turntables for interview programs, newscasts, meetings, or forums.

Intercommunication Equipment. The master-control room is the nerve center of the TV station. It must communicate with the transmitter-control room and administration operations. If the station is part of a network, more direct contact (perhaps a telephone line) between the master-control room of the station and the network originating center seems advisable. The producer must at all times have direct audio contact with technical personnel on the studio floor. Often a loudspeaker system or earphones transmit instructions to staging personnel, while in the larger and more-elaborate stations designs include two-way communication between control room, studios, and workshops.





Locations of connection points for a 998' guyed tower topped with a 56' pylon are shown (left). Towers cannot exceed 2000' in height over average terrain.

Catwalk protects transmission lines from ice falling from this high, guyed tower (below). Triangular tower is only 14' wide at base.

Self-supporting towers, though more costly, usually permit easier inspection of microwave relay equipment and general maintenance (right acrosspage).

antenna towers

From a structural point of view, towers erected to support TV antennas (whether VHF or UHF) are the same as AM and FM radio towers. These fall into two basic classifications: guyed and self-supporting.

guyed towers

As towers of this type are supported by wires that resist a large part of the stresses developed by wind load, their frames can be comparatively light. Their primary limitation is that they can only be used where an adequate amount of property is available. Approximate space and anchorage requirements for guyed towers can be determined by the following method: (1) with the base of the tower acting as a center describe a circle using half the tower height as the radius; (2) construct an equilateral triangle using the ground line between the intersections made by the circle as a base; (3) foundation points for the guys are at the ends of the triangle base; (4) upper connections for the guys will be located where the apex of the equilateral triangle meets the towers; (5) guys will also be connected at a point half way between the apex and the base. The highest guy will normally connect at a point that is approximately 80 percent of the total tower height. If it is necessary to connect the guys at a lower height, the center tower skeleton will have to be structurally stronger and consequently more expensive. Guyed towers are usually less costly to erect than self-supported towers. As the addition of other equipment such as micro-relay receiver dishes and transmitter studio links will require regular maintenance that is difficult to perform on a guyed tower, the smaller cost is not always the decisive factor in antenna-tower selection.

Transmitting facilities of this self-supporting TV tower atop the Empire State Building (above) are shared by five New York stations.

This relay station is part of a coast-to-coast network (right). Cousins of the antenna tower, stations like this one pick up microwaves and direct them to successive relay stations located at 30-mile intervals across the U. S. Self-support is gained from slip-form concrete construction.

self-supporting towers

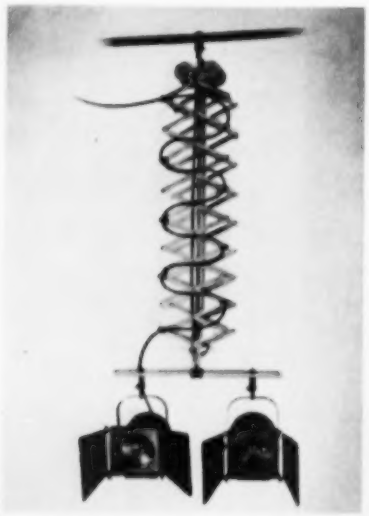
Where space is limited, this type of tower must be erected. A 600-ft tower structure, for example, requires an average of 6.25 acres for a self-supporting tower and 12.5 acres for a guyed tower. While self-supported towers are more expensive than guyed towers, they may have advantages in other respects. One advantage is the ease of inspection for the antenna installation and any microwave or other auxiliary equipment. Maintenance and equipment inspection can be done by a maintenance crew or the station engineer.

general notes

The station engineer and the company bidding for the antenna tower structure have ample opportunity to use standard structures with imagination. When mountain-top TV stations are desired, the building and tower structure may be integrated and the use of unit construction and prefabrication suggests a range of economical solutions. Where auxiliary power must be provided at the site, both the building and the tower should be fireproofed so that insurance rates may be held to a minimum.

Whichever type of tower is selected, a qualified engineer should be consulted to determine the local meteorological conditions (wind velocities, icing, and snow conditions), soil pressures, and so on. When the height of the tower has been determined, the proposed height plus the tower's exact geographic co-ordinates must be submitted to the regional office of the CAA. Towers must be under 2000 ft over average terrain, must not infringe on established air lanes, and must not be in the approach pattern of an airfield. Towers must also be properly lighted and maintained in an established pattern.

Items of equipment for television-studio lighting manufactured by Century Lighting Inc. are illustrated (below): *1—counterbalanced light-lift supporting two spotlights; 2—twin flood units and telescoping stand; 3—preset panel* (left) *and control desk* (right); *4—varying sizes of Fresnel lights; 5—remote-controlled spot.*



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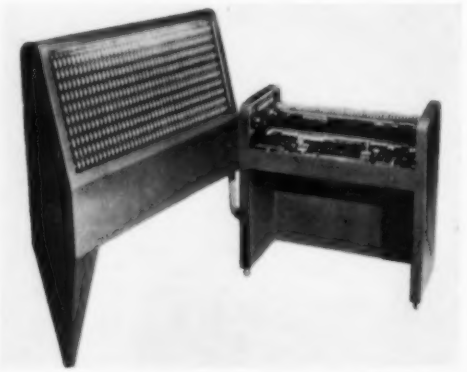

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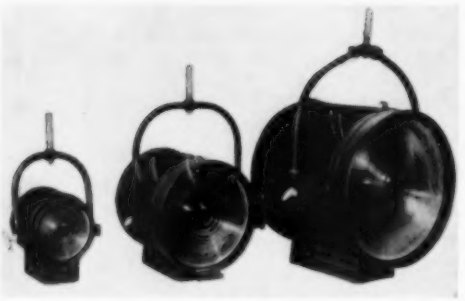


4

5

lighting

Although the architect must have some knowledge of the function of lighting in television production, a general knowledge will usually suffice as the design of suitable light bridges, controls for directing lights and intensities, etc., should be left to the specialist. In all planning it must be remembered that floor and ceiling lighting in studios will demand generous space allotments and that facilities for plug-in lights must be provided.

The eye's color response under varying illumination conditions must be considered. The light source will, to a certain extent, determine the design of the studio and some of the structural requirements. Lighting techniques must therefore be integrated with other planning at an early stage.

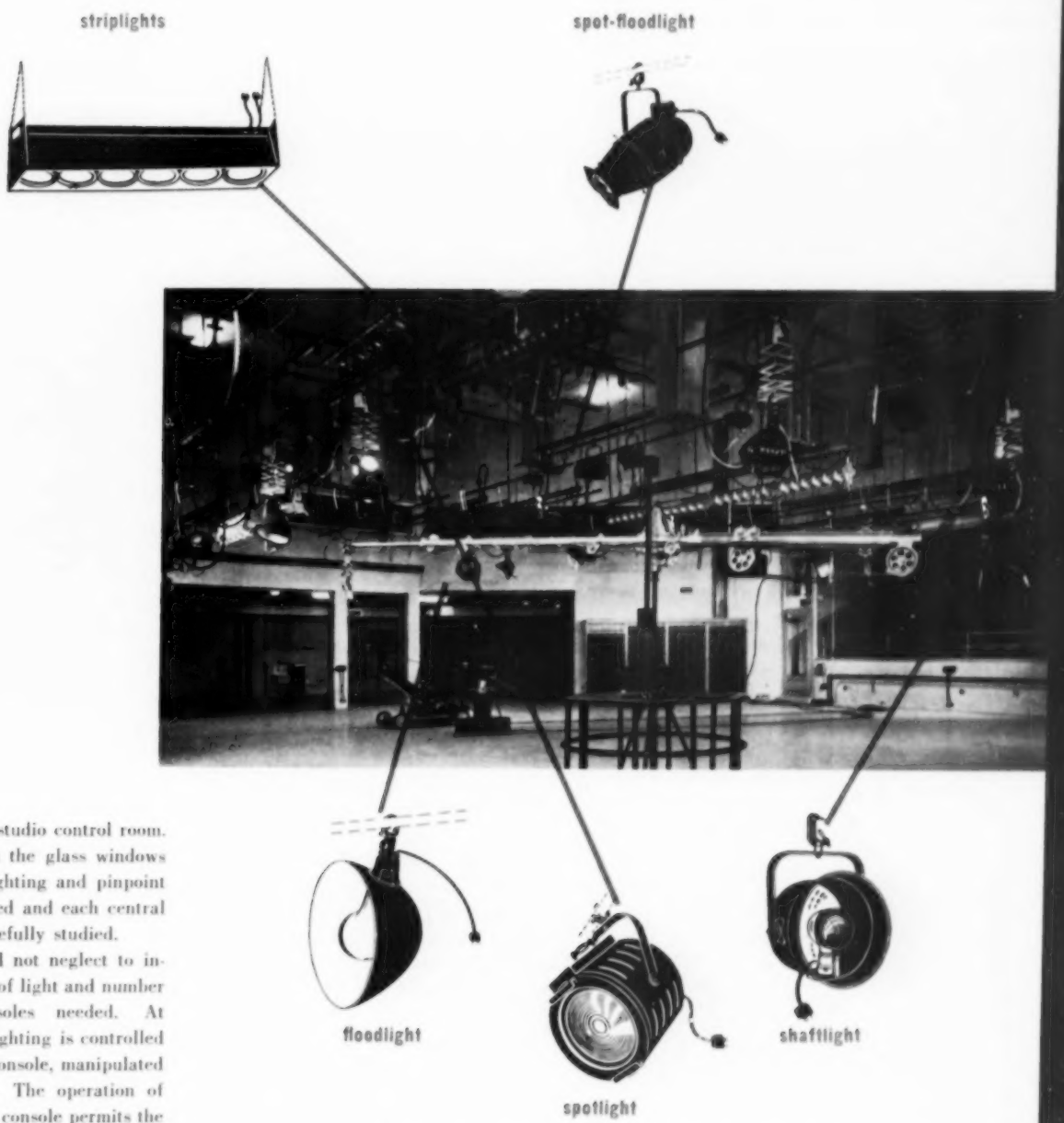
Both incandescent and fluorescent lighting are commonly used in TV production. Incandescent has certain definite advantages: maximum candle power, accurate beam control in distribution and pattern, and facility in color adjustment due to the wide range of the spectrum. Excessive heat radiation, however, results in considerable discomfort to the operating personnel during extended periods of use.

Fluorescent lighting is efficient and radiates little heat. By coating tubes with various mixtures, a wide range of color responses can be obtained. Certain disadvantages still exist in the undesirable length of tubes, the hum of ballasts, and the weight of transformers.

Spot arc-lamps are another source of light that have usefulness in specific installations. In any given situation, a combination of light sources will probably be the most desirable solution. Factors to consider are cost of installation, maintenance, length of useful life, facility of lamp replacement, and the role that each of these plays in successful performance.

The general types of lighting required by present-day sets are commonly divided into: foundation lighting, front lighting, background lighting, modeling, and display lighting. Electrified tracks for lighting, as currently installed in some studios, are saving valuable man hours in the mounting, adjusting, and maintenance of cables. Automatically-controlled movement of lights—up, down, and sideways—is a desirable feature for the large live-talent studio. For smaller studios a simply-designed cyclorama light frame should be used to provide the basic light intensity needed for proper camera pickup. Highlights and footlights can be added at will and all lighting cables should connect from the ceiling to provide the needed floor space.

Important but usually neglected is the



proper lighting of the studio control room. Reflection problems in the glass windows are constant. Desk lighting and pinpoint lights should be utilized and each central position should be carefully studied.

The architect should not neglect to inquire into the amount of light and number of light-control consoles needed. At present, large studio lighting is controlled from a prewired wall console, manipulated by a single operator. The operation of lights from this control console permits the use of any light group and makes possible easy maintenance, repair, and part replacement of lights. Associated with the control console is a preset panel to allow for the cueing of lighting ahead of the production. As labor union regulations are stricter in the lighting field, lighting of the studio should be carefully planned to prevent future operational troubles.

At WTVJ, Miami, all light cables connect from the ceiling to provide maximum usable floor space (above: photo). Lighting equipment was manufactured by Kliegl Bros.

acoustics

At WBAL-TV, Baltimore, the use of acoustical tiles on the ceiling plus the presence of reflecting flats and curtains provide adequate sound conditioning for the live-talent studio.

During the integration of acoustical design with the basic planning of television studios, there are certain general considerations which are of paramount importance. Prime factors effecting noise penetration into a building from the surrounding area are the location, layout of the building, grading, and landscaping—each may effectively help or hinder acoustical control. The problem is solved to a great extent, of course, if the chosen location has quiet surroundings. In any case, however, a survey of the existing noise level should be taken for use in future calculations which will be made in regard to design allowances and the choice of sound-conditioning materials. Such a survey should record the level of street noises during the hours of peak traffic as well as the average level. In contrast to radio broadcasts, television broadcasts are less sensitive to sound transmitted through the structure. Unless there is a serious vibration problem caused by the nearby location of railroad tracks, streetcar lines, or heavy operating machinery, special foundations and floating construction, used so extensively in the design of radio broadcasting studios, should not be necessary.

Within the building, an estimation of the noise level is also necessary at the preliminary design stage. If the sound pressure measures between 25 and 30 decibels, the noise level is considered acceptable for a television building. This survey provides useful information which should be taken into consideration in the arrangement of air-conditioning equipment, elevators, and other heavy machinery needing special attention in order to obtain good sound control. In solving the problem of sound transmission from one room to another, which occurs primarily through vibration, it has been found that the best insulation is obtained by the use of rigid, heavy-material walls made of porous material.

Within the individual production studios, acoustical control centers around the reduction of the noise level and the elimination of sound-focuses, dead spots, and room flutter. The shape and size of the studio area are important. For example, a design of square or rectangular rooms has two acoustical drawbacks—echo effect and reverberation. A small play in studio walls to prevent parallel alignment may correct basic mistakes in acoustical planning and prevent a later need for expensive corrective alteration. Similarly, large concave and hard-surfaced walls will exaggerate echo effect and poor design of auditoriums and room corners will cause dead spots. The most important areas as far as acoustical control is concerned are naturally the studio areas and the announcer's room. The production areas of the studios are less apt to produce the constant acoustical problems present in radio broadcasting studios since the large amount of miscellaneous scenery, props, and equipment necessary for live-talent productions provide an adequate amount of absorptive surfaces. If this is not sufficient, and it will vary with the production, the use of curtains or reflecting flats will provide corrective treatment.

The visual image seen by the TV audience reduces audial awareness and as a result sound control need not be emphasized to the extent that it is in radio broadcasting. Nevertheless, it is a good idea to consult an acoustical expert before the structure skeleton is frozen for detail design.

equipment

Typical arrangement of film camera (near left) and 16 mm film projector (far left). A remote control box, as far as 1000' away, can govern lens selection, focus, pan, and tilt of this camera shown in downward tilt (left below). Remote controls can be operated manually or by push buttons for preset positions.

Based on the program requirements of the individual TV station—the proportion of network, film, live-talent, remote, and simulcast shows scheduled by the Master Plan—the necessary TV and auxiliary equipment in turn determines the facilities which will be needed to house the equipment and their operating personnel. For purposes of better visual planning of these facilities and the vertical and horizontal demands on space, it is necessary not only to be generally familiar with various types of equipment and their functions, but also to have a general idea of dimensions and assembly characteristics of the more important and decisive parts. In this regard, a small scale model of the equipment on hand or to be purchased is desirable.

In the large live-talent studio, at least four electronic TV cameras, either pedestal or dolly mounted, are used in a circular movement, following the action in often complex patterns. Thus, the movement of the cameras must be, within reasonable limits, unrestricted by the height or shape of the studio or by any floor obstruction. At present, the studio floor area is not a free one, due to the use of heavy coaxial camera cables but the use of overhead-supported cables (supported by V-shaped rubber cords) or cable-free cameras operated by batteries may soon overcome this difficulty in large studios. Video control equipment, which may be set up in such different locations as the studio control room, master control room, or film production area, includes camera control monitors, preview monitors, film camera control monitors, and switching units. Depending upon where this equipment is located, it is desirable to have clear sight lines from them to the studio, announcer's booth, film projection area, and sometimes the master control room. In the master control room racks contain video and audio master equipment, such as synchronizing generators, distribution equipment, phasing equipment, and switching units. There is also a master control console with outgoing and line monitors and a single switching panel. The choice between two systems of studio production can also effect space requirements—the decentralized system calls for camera control monitors, technical director, producer, audio control operator in the studio control room while a centralized operation demands that the camera control monitors for all studios and film cameras be in the master control room area with producer, technical director, and audio control operation in the studio control room.

Necessary audio equipment for a TV station handles sound pickup, control, recording, and reproduction. For pickup, microphones may be either table, suspended, or boom types. Today, boom microphones, like cameras, demand special operational care and create major floor obstructions—however, future improvements may include (for large studios) combined light-sound bridge arrangements with remote-control equipment. Reproduction units may include turntables or magnetic tape recorders. Sound output is regulated by an audio control desk while inputs may have studio, projection room, turntable, remote, or network origin and sound control in a simple station unit includes a number of input, output, or mixing positions.

Although there is variation in the amount of film equipment used in the individual stations, one or two projectors, a film

Microphone booms, which create major floor obstructions, demand special operational care.

equipment

camera, an automatic slide projector and reflector (multiplex), and a film control monitor are basic. In a small station using 16 mm film it is possible to have only one control man handling a film operation with the projection equipment housed in the control area. However, in the case of larger stations, a special film projection room is more advantageous—and absolutely necessary if 35 mm flammable film is used. In larger stations, too, film vaults, dark rooms, and cutting and preview rooms are often required and necessary equipment would include tank developers, enlargers, driers, cutting and splicing equipment, turntables, dubbing equipment, and rewind units.

Intercommunication equipment in a TV studio, whether large or small, is extensive due to the necessity of having direct channels of communication between departments within the building and various personnel located in production, control, and auxiliary areas. For example, the master control room must be linked up with administrative, operation, and production areas as well as with the transmitter control room and any mobile equipment. There must also be direct communication between the studios and maintenance areas, workshops, and dressing rooms. During rehearsal periods a loudspeaker system may be used with earphones for the technical floor personnel and facilities for the production manager to enable him to speak back to the control room. The above examples do not by any means constitute all the situations in a TV station which demand intercommunication equipment.

Mobile or field equipment, designed to operate as self-contained units, generally include cameras, camera monitors, a master monitor, field control console, power pack, and lightweight mobile microwave relay transmitter. Since this equipment is often used for the station studio, the space relationship of studio and the mobile unit storage space and maintenance facilities must be carefully planned.

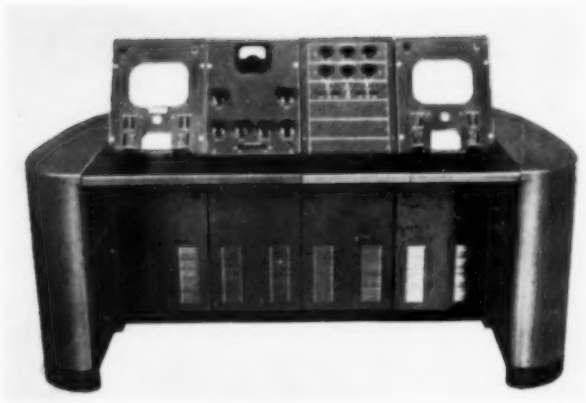
The nature of television broadcasting imposes fundamental requirements on ventilating, air-conditioning, and heating systems. Of basic importance is the allowance for maximum heat radiation in studios, control room, and associated production areas and the air-conditioning system should be made up of units supplying a series of areas rather than contained in one plant supplying the building as a whole. Air velocities in the main duct supply and return outlets will have to be calculated to handle maximum heat loads. One of the many other elements which must be borne in mind in installing air condition-

Announcer's console at WAAM, Baltimore (left); switching unit of video-control equipment (right).

ing for a studio is the problem of noise control: possible sources of noise are fans producing a turbulent air stream, mechanical vibration of air friction noises in the ducts resulting from improper design of the duct itself, return or supply outlets, and rotating or reciprocating machinery causing vibration. In general, the number of factors involved in the installation of air conditioning for a studio makes it extremely advisable to employ the services of an air-conditioning expert. Dimensions of air-conditioning units for certain types and sizes of equipment should be supplied by this specialist.

The selection of the TV transmitter, an expensive item in an equipment list, and its auxiliary equipment must be left to a specialist. Transmitters, either VHF or UHF types, generate an AM signal and operate in the 6 mc channel both for picture and sound. Their selection is governed by such special factors as the coverage demanded, the elevation of the antenna, and the type of antenna selected. In an installation associated transmitter equipment such as transformers, circuit breakers, and voltage regulators, should be housed behind the transmitter proper and the transmitter console should face the transmitter for purposes of easy supervision. The weight of the transmitter equipment is comparatively heavy and its effect on floor loads should be calculated. Another consideration to be borne in mind is the effect of procedure used in case of power failure on the relationship between the transmitter and all other areas. Emergency stand-by power would be by gasoline or diesel motor generators. For such a contingency, emergency studio facilities should be included in the planning of a separate transmitter.

In small television stations, where program resources consist of network programming, films, and some live-talent shows, what is called "basic buy" TV equipment will be used, permitting the control of the live studio by one or two operators. In such instances, the control room doubles also as a transmitter control room. The single control operator is used at times when simple programs are telecast which do not need complicated program production techniques. While the "basic buy" operation is a "basic buy" from the equipment point of view, it does fall short in connection with needed live-talent programming. Therefore, once large live-talent productions are planned, it is advisable to have a special control room which will allow the use of a producer's console, a technical director's position, and an auxiliary audio desk.



Basic control facilities for interview studio (above); custom program console (above right); mirror-type producer's console (right).

TV transmitter station

location	Washington, D. C.
architects	Berla & Abel
engineers	Otto Vogt; Wilberding Company
landscaping	Cary B. Millholland
general contractors	Davis Wick Rosengarten Co., Inc.

This transmitter station, WTOP-TV, is one of the early projects of its type. Although pressing demands since construction have required using portions of the building as makeshift studio space, the unit was designed solely for a television transmitter.

From a functioning standpoint, the site, nearly the highest elevation in the District of Columbia, is excellent. But since it is closely surrounded by a built-up area, the possibilities of site expansion are severely limited.

The structural system consists of a conventional formed-concrete basement story, with the main floor steel-framed. This latter floor system has a 6″ vermiculite fill, deep enough to contain the complex wiring systems; floor finish is asphalt tile, with trench covers of the wiring system easily removable for access.

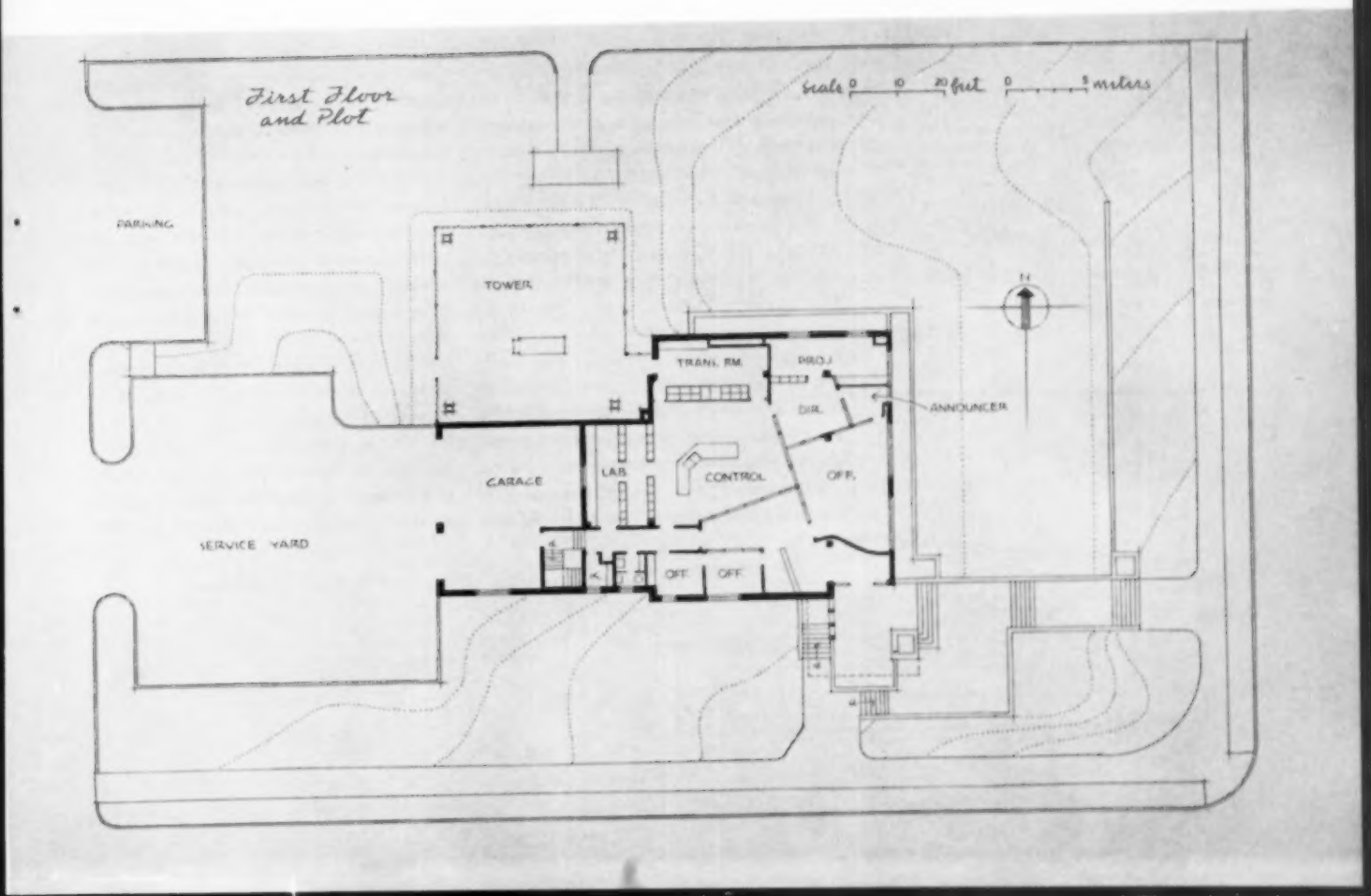
Throughout, simplicity and freedom from maintenance were the guiding criteria in selection of materials. Exterior walls are limestone; interior walls, plaster, with tile used in rest rooms. Ceilings are surfaced with acoustic pans, and the lightweight gypsum roof decking is surfaced with 4-ply built-up roofing. Wool-batt-type insulation is used for thermal control. The sash are steel casements. A combined hot-water and forced-air heating system employing cast-iron convectors and aluminum ducts is automatically controlled. Air distribution is handled through air diffusers mounted flush in the ceilings.

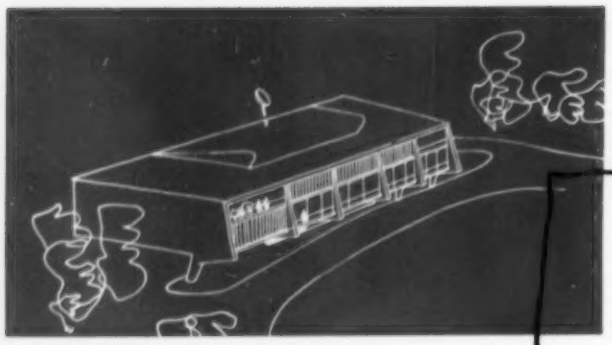
Photo: Robert C. Lautman

The control room (above) is immediately behind the entry corridor, where visitors may observe operators seated at the L-shaped console, conditioning the quality of sight and sound.

Beyond the reception desk (right, above) may be glimpsed the windows through which visitors watch operations.

Though an inside stairway leads down to the basement level (boiler and air-conditioning room; storage space; dark room; and toilets) a side entrance behind the entrance terrace (right) allows direct access from outdoors. Photos: Richard Garrison





TV station project

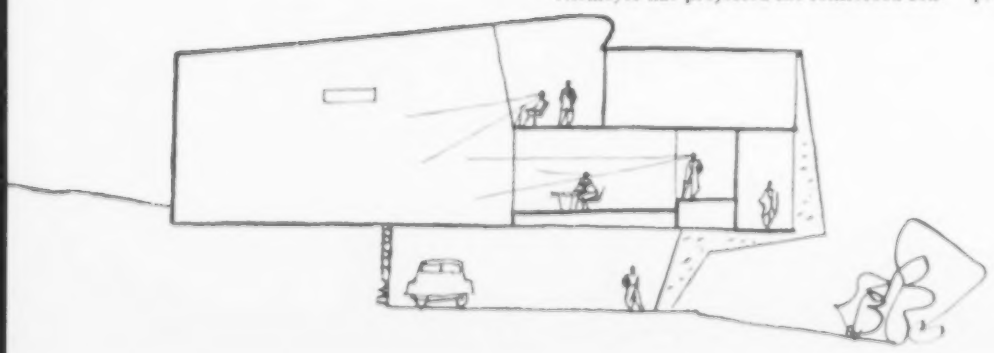
location	Rio de Janeiro, Brazil
architect	Oscar Niemeyer
engineers	Pamplona; Jack London

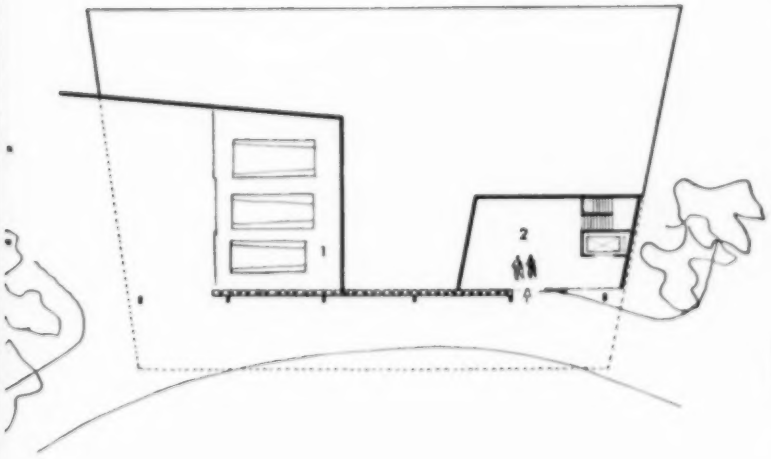
This provocative design, developed by one of the liveliest imaginations at work in the profession today, is to be constructed in Rio for the TV activities of an organization called *Diarios Associados*.

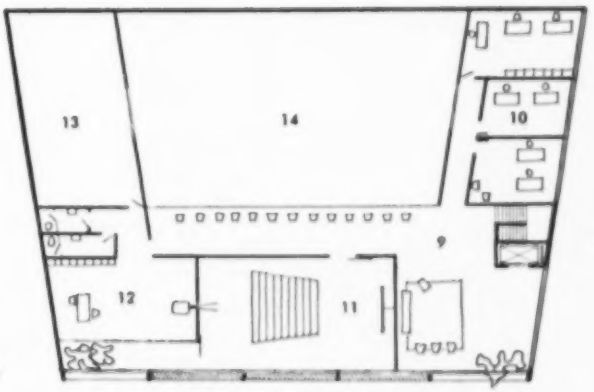
An intermediate-size facility, the station has a remarkably straightforward plan, although the technical facilities are not adequately provided, by present standards. Studios are ranged around a central control core; shops and dressing rooms border the staging area; offices are readily accessible, but placed at one side; guests invited to watch a production in the one large studio are accommodated in balcony seats on the upper floor, directly above the control area.

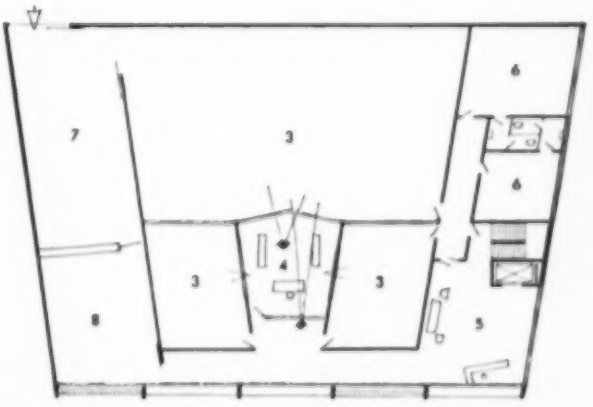
Dramatizing the edge-of-a-slope site, Niemeyer has projected the reinforced concrete superstructure over the crest and cantilevered its forward wall beyond the masonry and concrete supports. Vertical louvers are used for daylight control.

In looking over the dozens of buildings designed for TV that came to our attention for possible inclusion in this issue, editorial consensus was that very few had yet achieved any particular design character. In appearance, many might just as well have been warehouses or generator plants; and not a few appeared to have involved no design effort or conviction whatsoever. Though hardly to be considered as an item for the copybook artist's scrapbook, the Niemeyer design, we felt, had both a dash and dramatic quality that seem highly appropriate for buildings planned for TV.

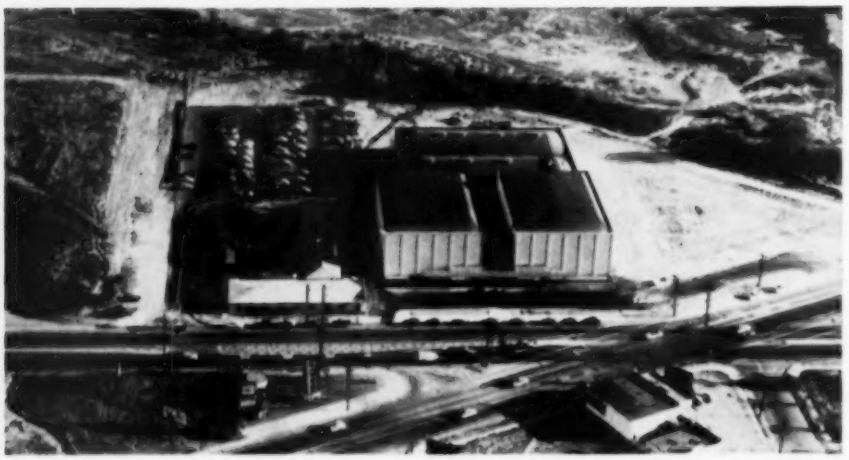








1. garage
2. entrance lobby
3. studio
4. control
5. reception room
6. dressing room
7. service-shops
8. administration
9. lounge and observation
10. offices
11. theater
12. projection room
13. laboratory
14. upper part of studio



The low unit between the two tall studio masses contains dressing rooms for stars, chorus rooms, control rooms, rack rooms, and light-control bridges, all desirably located immediately alongside the production areas.

Photos: Julius Shulman

NBC-TV studios

location	Burbank, California
designers-engineers-builders	The Austin Company
consultant architects-designers	Fordyce & Hamby (of the Raymond Loewy Corporation)
supervision of building design and construction, technical-equipment design and installation	O. B. Hanson, Vice-President and Chief Engineer, NBC NBC Staff Engineering Department

First two units of a major TV development . . . Flexible studios for multitype productions . . . Two distinct arrangements of audience seating . . . Ceiling heights to accommodate flown sets . . . Speedy, economical structure, employing precast elements.

Along with its swift demand for telecasting facilities, the burgeoning TV entertainment-advertising industry faces all manner of unresolved planning problems for which only tentative answers can yet be found. How many studios should there be in a major TV center? How large should they be? How much space should be provided for live audiences? What ceiling heights should occur in major production areas? These and numerous related questions seem to indicate that the best approach at the moment is to provide as much flexibility as possible, allowing for future change as new factors become known.

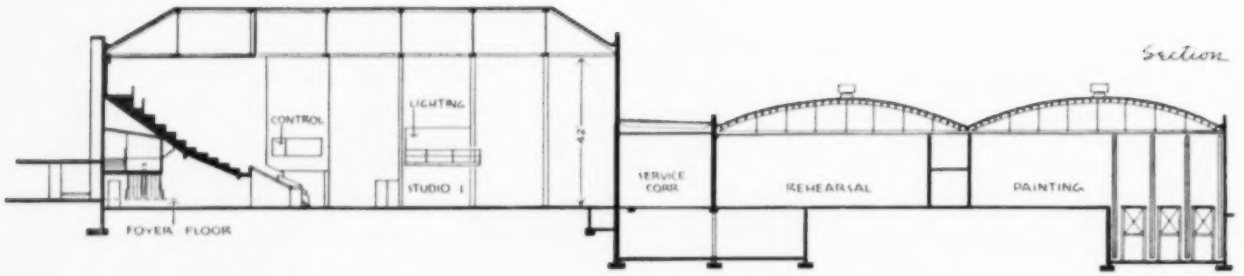
A good example is this first unit of NBC's new TV center in Burbank, California. Many exceptional things were done here, both to make the facilities as efficient as present knowledge makes possible and to anticipate future needs. While the initial project contains but two large studios and attendant facilities, a 48-acre site was acquired—large enough to accommodate twelve times as many studios. Whether the center will ever grow to this size will be answered only when the industry itself—and NBC in particular—eventually learns its full potential.

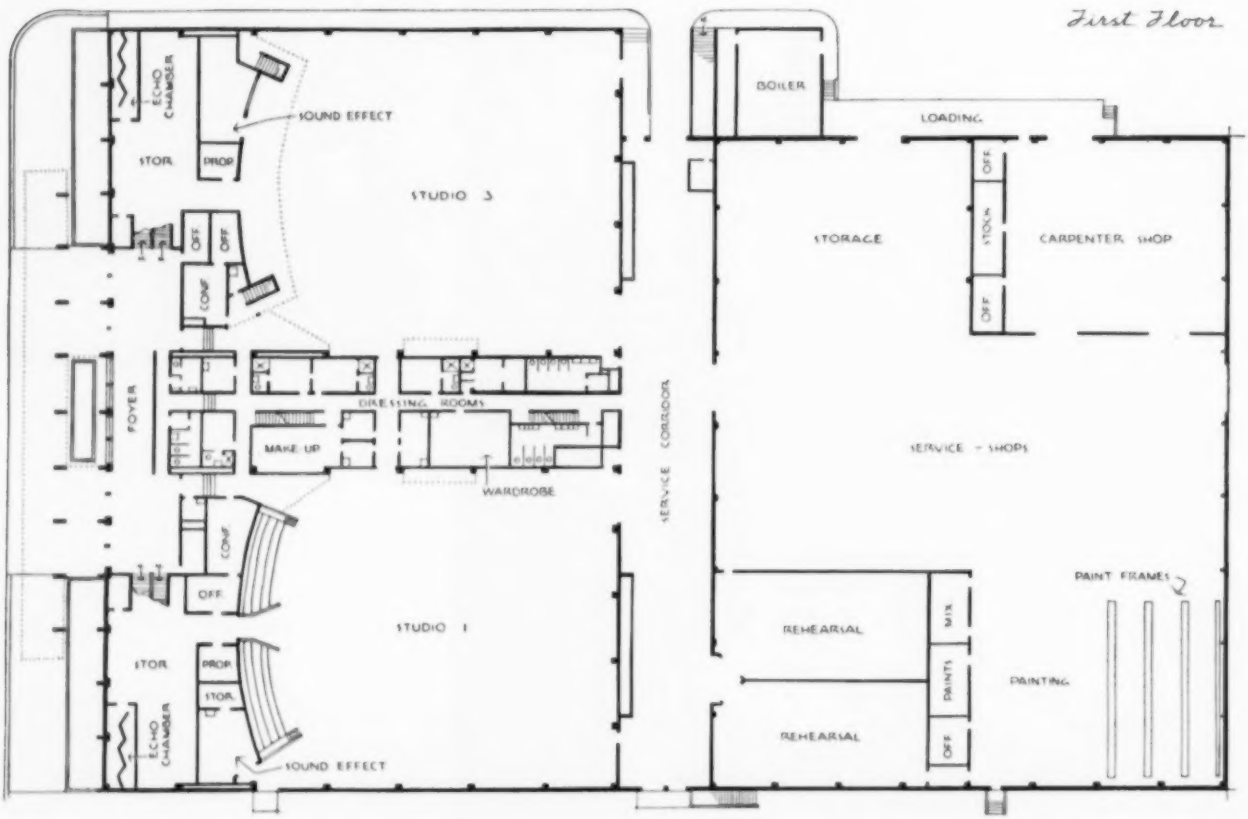
The first two studios were designed to provide for the multiple requirements needed for such varying productions as dramatic shows, variety shows, and moving pictures. The best reasoned guesses of NBC program, production, and technical operating personnel led to the adoption of studios (including audience seating) 90′ x 140′ in area, with the production areas being allotted a space approximately 90′ x 100′ in area, the remainder being assigned to audiences. Another basic decision was to limit audiences to from 450 to 500 spectators, on the theory that this size audience best provides the background reaction required for variety shows. From floor level to bottom chord of the steel roof trusses is a clear height of 42 ft, a dimension that was adopted (rather than the customary 20-to-30-ft height) to save time and money in handling scenery and sets. When not in use, scenery can be hoisted up out of the way and sets for the next show dropped in a matter of minutes. This overhead cubage also provides a generous amount of storage space, that otherwise might have been provided by construction of additional buildings.

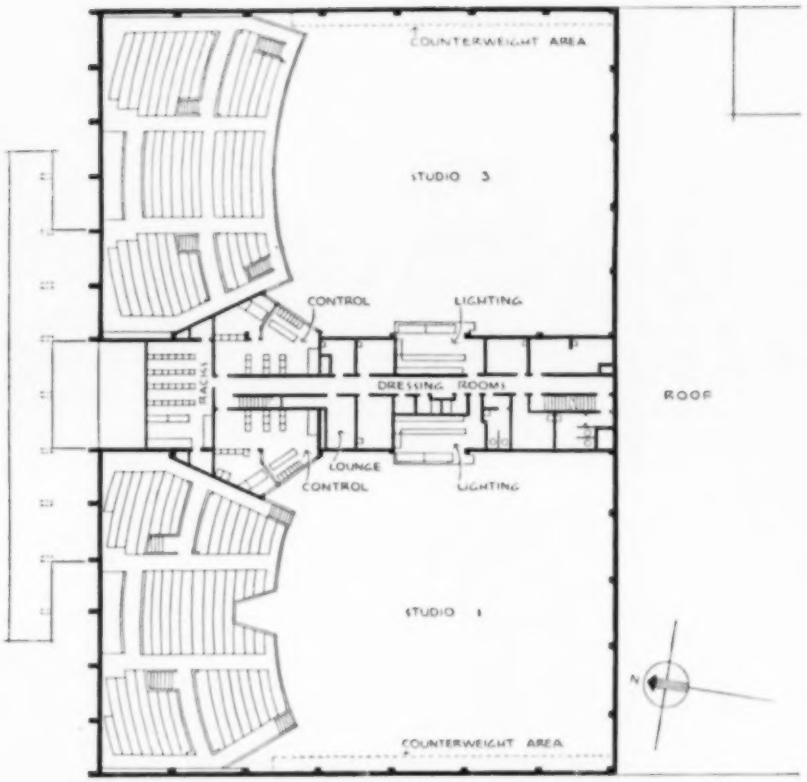
To cope with a quick construction deadline, the structural designers worked out a resourceful system *(see pages 114-115)* using precast concrete columns and wall panels hoisted in place by crane and connected in three weeks' time. The decorative scorings that appear on the exterior of the wall panels were cast in the slabs, by means of strips of wood attached to the plywood forms in which panels were cast. Forms were stripped while the concrete was slightly green, and any small imperfections were corrected by pointing up the details before the walls were put in place.

NBC-TV studios

At the rear of the studios (right and section below) is a 25-ft-wide service corridor that penetrates the full width of the building; behind this is the 140' x 180' service-shops building, with a 20' clearance. In this unit are carpentry, paint, scenic, and prop rooms, and rehearsal halls—allowing design, construction, and flow of scenery and props directly into rehearsal halls and studios with minimum motion. At the back of the paint shop is a 15-ft-deep pit with slots in the ground floor to accommodate six paint frames, which are raised or lowered by counterweighted hoists. Thus, artists may paint scenery working at ground floor level.



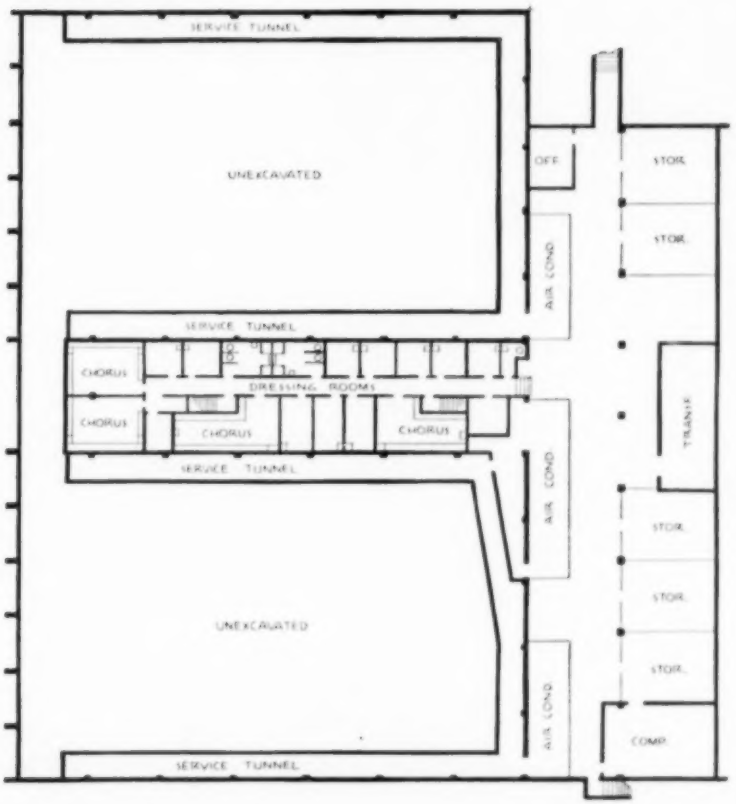




Second Floor

Scale 0 ..... 25 feet 0 ..... 5 meters

Basement

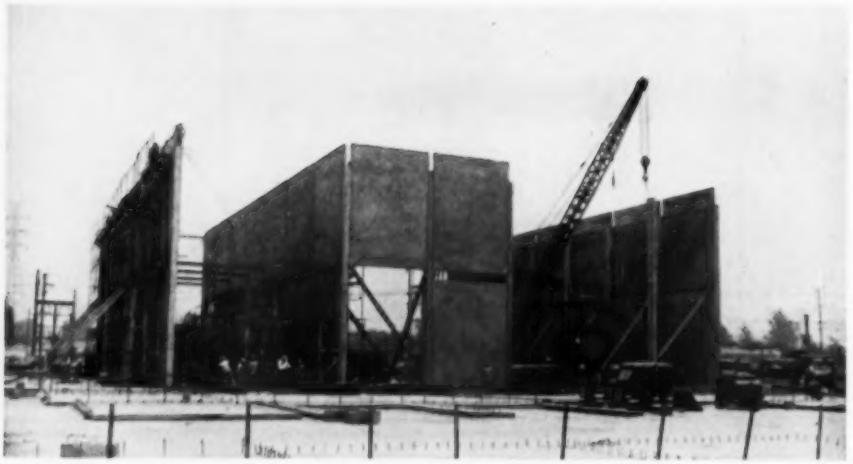


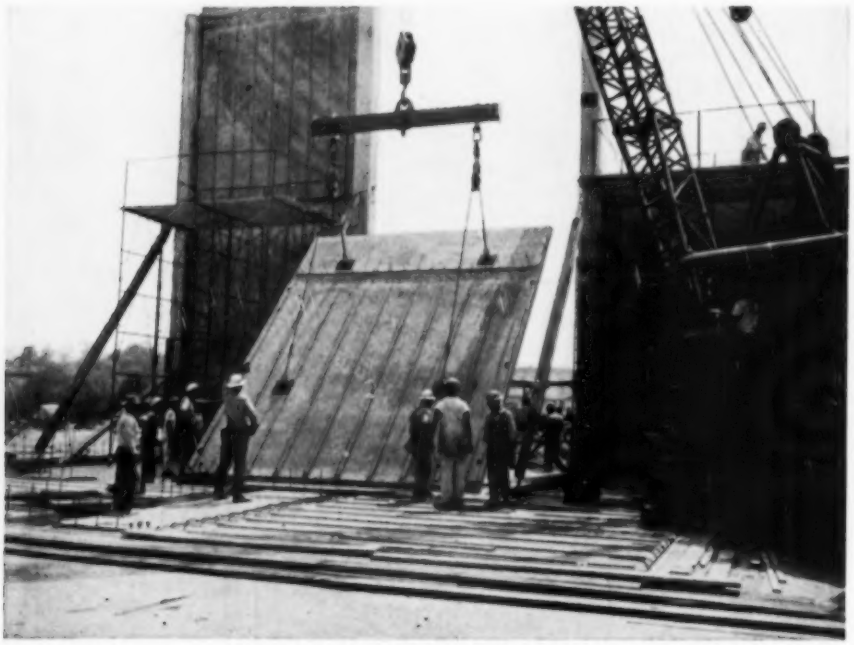
Primary organization of the plans is apparent—the two big studios at the front separated by the 30-ft-wide dressing-room-control-booth-lighting core that serves each studio directly; the service corridor in back of the studios; and the shops-service building at the rear. Of unusual interest are the two types of audience seating, provided chiefly for variety-type shows, when the production area is masked with a false proscenium to fit the particular show requirements.

In Studio 1, the seat bank comes right down to the stage floor; with wells back into the seating, for cameras. Studio 3 has seating arranged so that the lower rows of seats overhang the staging area; providing an area 11 ft deep and 8 ft high in which cameras can operate out of sight of the audience. Each scheme has its firm adherents, and design of future studios will be guided by whichever type (or possibly some variation) seems to work best.

While acoustical considerations appear to be less critical in TV studios than one might suspect (*see page 102*), considerable attention was given to them here. The production area was treated with absorbent material, varying from 1″ to 4″ in thickness, faced with muslin and secured with chicken wire to obtain maximum absorption with minimum reverberation, and to keep the frequency-vs-reverberation characteristic as flat as possible. In the audience section, more sound-reflectant surface was allowed, with only enough absorbent material used to reduce sound absorption and permit the most efficient use of a sound-reinforcing system for the audience. Fully upholstered seats were used, so that the over-all reverberation would remain relatively constant, whether with an audience or empty.

NBC-TV studios





Since construction was delayed due to government restrictions on use of critical materials (especially structural steel), and since nearly four months were needed for processing through NPA, The Austin Company turned to its experience with the tilt-up type of construction to take advantage of the speed and cost savings.

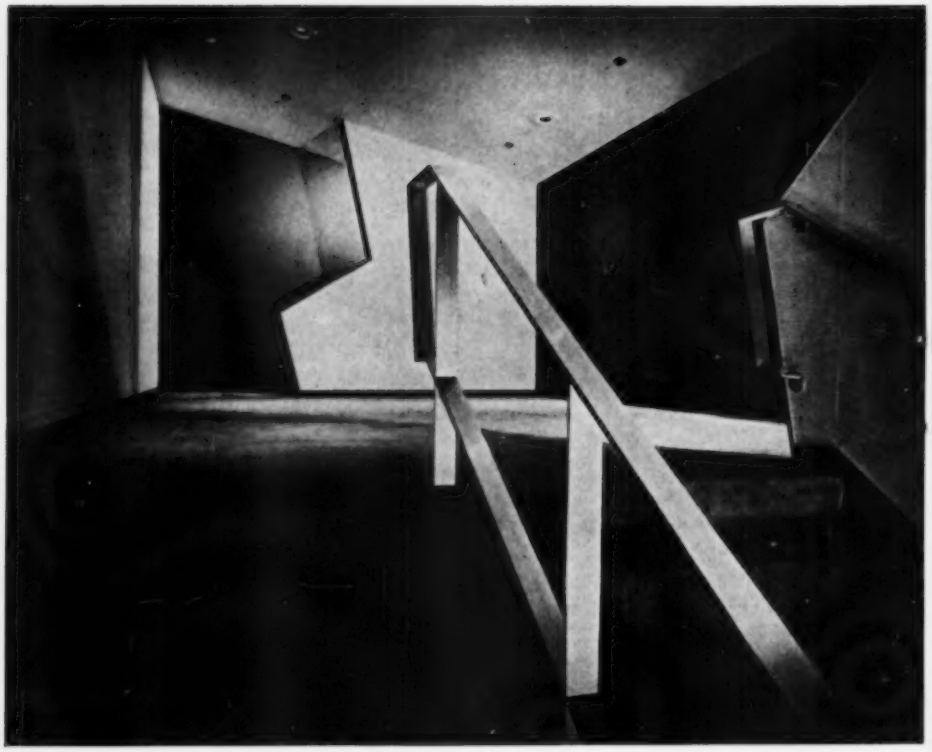
The 42'-6" reinforced concrete columns were all precast in a horizontal position in plywood forms located near the points where the columns would be used, and the nearly 100 reinforced-concrete wall panels (two to each bay) were poured flat, either on plywood forms on the ground alongside the panels' final position in the wall or directly on the concrete floor slabs. Anchorages were welded to the reinforcing steel of the panels to facilitate lifting.

Operating from within the building envelope, a special 45-ton crane lifted and placed the columns. Then each of the 16-ton wall panels was lifted, turned sideways, inserted between columns to the outside, then turned back and brought up flat into position for attachment. It is an almost unbelievable fact that all of the precast elements, except for a few units omitted to facilitate installation of the steel roof framing, went up in three weeks.

The huge precast members were all raised by means of lifting plates at the ends of cables that corresponded with anchorages welded to the reinforcing steel in the panels. The cables, in turn, were suspended from a special bridle attached to the 45-ton crane.

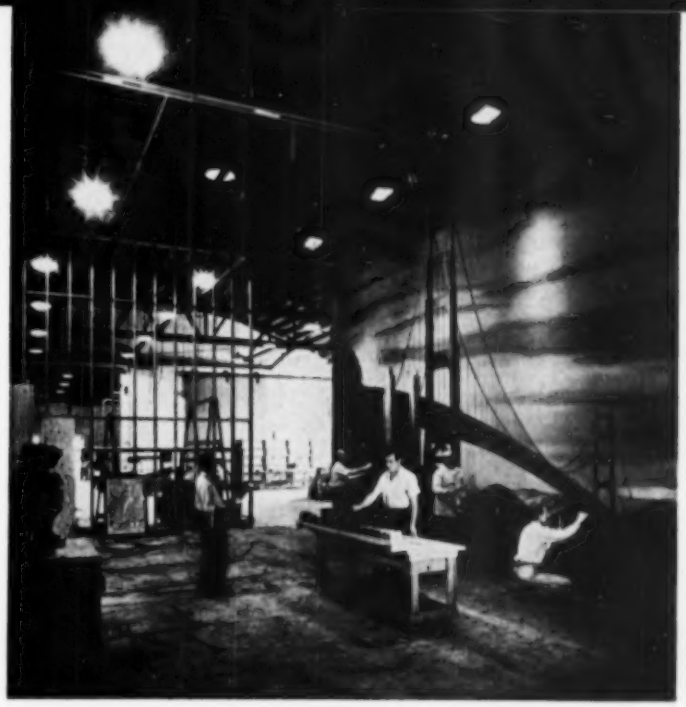
Construction photos: The Austin Company

NBC-TV studios



At either end of the public-entrance foyer, carpeted stairways (above) lead up to the vomitories serving audience seating.

The service corridor (left) between the studios (tall, hinged doors, right) and scenery-shops and rehearsal halls (sliding doors, left) is 25 ft wide and 20 ft high, allows scenery and props to travel directly to rehearsal halls or studios with no need for elevators or hoists. Asphalt-tile flooring; acoustic-tile ceiling.

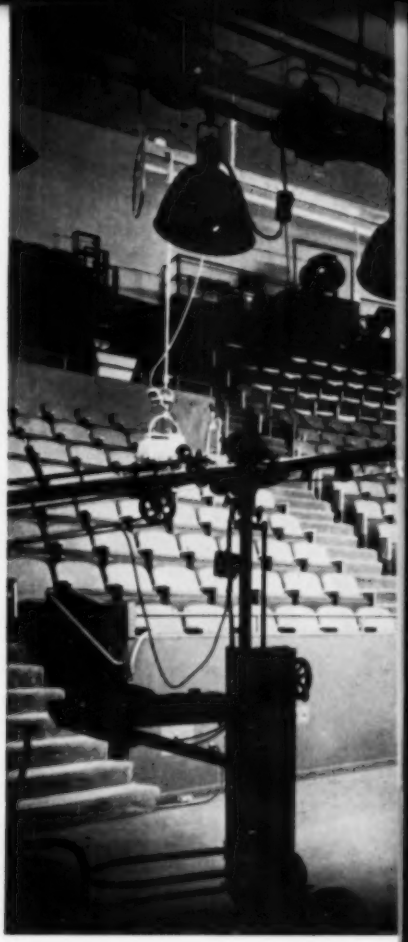


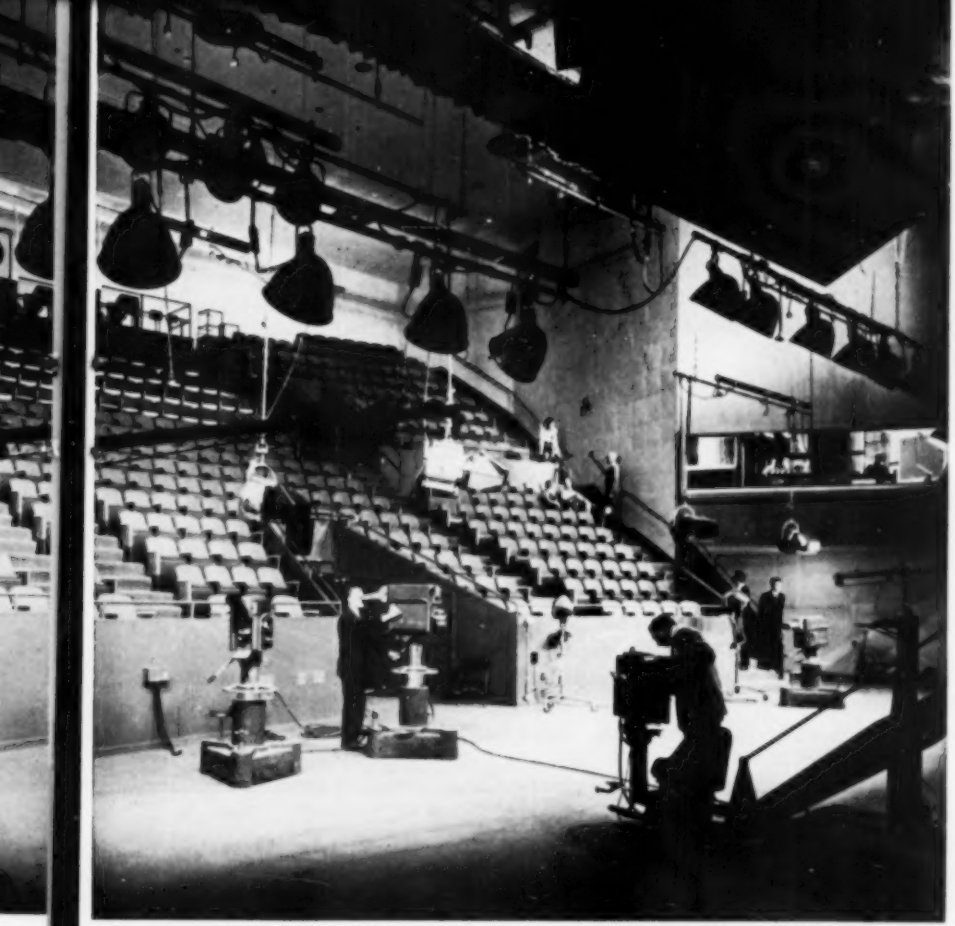
In the scenery-painting area of the shops-service building (right), *the huge paint frames may be raised or lowered through floor slots opening to a 15-ft-deep, under-floor pit, so that artists may always work at floor level. Arched, wood roof trusses span the area, providing a 20-foot ceiling clearance.*

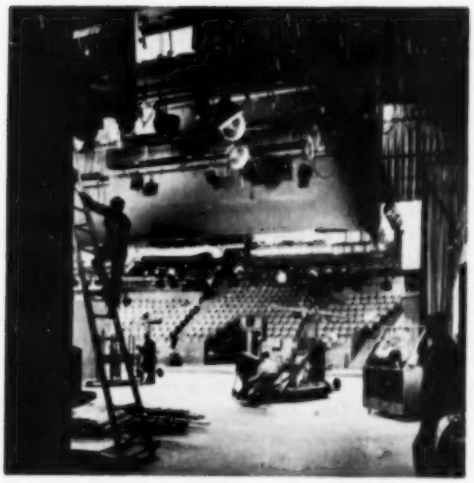
The public foyer (below) *has a floor of slate; walls and ceilings surfaced with acoustic tile. Artificial lighting derives from flush-mounted troffers with tubular lamps.*

NBC-TV studios

Studio 3—with audience seating raised 8 ft off the floor. T-section battens that hold overhead lights are guided by a side-wall counterweight system and are divided into thirds to permit flexible usage. In addition, there are rows of light battens along walls at either side of the staging area.







Studio 1—with audience seating coming right down to the floor. While cameras may operate from underneath the audience in Studio 3 for full-stage shots, in this studio they work from wells recessed into the seating bank. In both studios, the control booths and lighting control docks occur along the inner wall of the studio at the second-floor level, with unhindered view of the total operating area.

construction

Foundation, frame, floors, roof: reinforced concrete foundation, spread footings; framing: reinforced concrete and steel trusses (studios)—United States Steel Corporation; reinforced concrete and wood trusses (service building)—Arch Rib Truss Corporation; reinforced-concrete walls and floors; roof: wood purlins and deck. **Wall surfacing:** exterior: paint; interior: acoustical treatment and plaster (studios); rest rooms: plaster, ceramic tile—Gladding McBean & Company. **Floor surfacing:** asphalt tile (studios)—The Flintkote Company, The Tile-Tex Division. **Roof surfacing:** built-up composition roofing—Johns-Manville Corporation. **Waterproofing and damp-proofing:** integral compound in concrete. **Insulation:** acoustical tile—The Celotex Corporation; mineral-wool blankets and batts—Coast Insulating Products; perforated asbestos board—Keasbey & Mattison Company; wood-fiber cement board—Tectum Corporation. **Roof drainage:** galvanized-steel downspouts, cast-iron drains. **Partitions:** interior: concrete block, wood stud, and plaster; toilet: panel, flush. **Windows:** polished plate glass (studio front). **Doors:** interior: flush wood, Kalamein, rolling steel fire shutters; entrance: polished-plate glass—Libbey-Owens-Ford Glass Company. **Hardware:** lock sets—Schlage Lock Company. **Paint and stain:** exterior and interior—E. I. du Pont de Nemours & Co., (Inc.).

equipment

Seating: studio: International Seat Corporation. **Lighting fixtures:** slimline recessed troffers (front entrance and foyer), recessed incandescent fixtures (foyer mezzanine and seating area)—Century Lighting, Incorporated; low voltage control—Square D Company; ceiling-mounted incandescent fixtures (dressing rooms), standard high-bay RLM fixtures (service building)—Smoot-Holman Company; silvered bowl lamps in surface-mounted and recessed fixtures (equipment and control rooms)—Silvray Lighting Company; supplementary lighting—Benjamin Electric Manufacturing Company; TV studio lighting equipment—Kliegl Bros. **Electric distribution:** lay-in duct and pull boxes—Square D Company; service and distribution panels, motor control centers, feeder bus, 3-phase, 4-wire lighting panels—Square D Company. **Plumbing and sanitation:** water closets, lavatories—Crane Company; toilet seats—C. F. Church Manufacturing Company; flush valves—Sloan Valve Company; shower cabinets—Fiat Metal Manufacturing Company; gas-fired booster-type water heaters—General Water Heater Corporation; sprinklers—Grinnell Company, Inc. **Heating and air conditioning:** Freon 12 refrigerant; reciprocating compressor, blowers—Westinghouse Electric Corporation, Inc.; grills and diffusers—Tuttle & Bailey, Inc. and Anemostat Corporation of America; washable filters—Farr Company; pneumatic controls—Minneapolis-Honeywell Regulator Company; coils—American Blower Corporation.

portable roof structures

Gambella, a lightweight, collapsible, and portable roof structure, can be designed for any type of structure up to 100 ft clear span with continuous laminated three-hinge arches or bow-string trusses for straight side structural applications. No intermediate purlins are required between the arches and because of the continuous longitudinal support, arches of relatively thin section can be used to effect a reduction in the weight and cost of a structure. Capable of supporting any type of roofing material and costing 60 percent of conventional construction, these roof structures have been specified for hangars, field warehouses, and other military uses. Because of its flexibility, Gambella can also be used for cylindrical structures. This system was originally designed for farm structures as the components can be readily shipped in package form and erected with the hand tools available to every farmer. Gamble Brothers, Inc., 1600 Louisville Ave., Louisville, Ky.

air and temperature control

Dri-Aire: electric dehumidifier which, depending upon temperature and humidity, will draw from 2 to 3 gal of water every 24 hours in areas up to 10,000 cu ft. Removable drawer-type container (3-gal capacity); ½" fitting for use with permanent drain. Mechanism permanently oiled and hermetically sealed. Available with timer. Berns Mfg. Corp., 3050 N. Rockwell St., Chicago 18, Ill.

Universal Baseboard: one of five available units in redesigned line of baseboard heating equipment for residential, institutional, commercial, or industrial heating (either steam or hot water). Full-height steel backplate aligns baseboard assembly, supports all elements, acts as barrier against loss of heated air into walls. Optional equipment includes line of accessories such as end enclosures with access panels, corners and joint covers, new damper and control. Kritzer Radiant Coils, Inc., 2901 Lawrence Ave., Chicago 25, Ill.

Marco V8 Fan: ventilating fan with squirrel-cage blower and axial flow blade. Blade propelled by floating-power motors. Standard finishes: chrome and white enamel. Motor specifications: 110 volts, 60/50c, 100 watts; discharge rating: 350 cfm, free air, 800 cfm. Marvin Mfg. Co., 3071 E. 12 St., Los Angeles 23, Calif.

Oilgas Generating Combustion Head: combustion head may be installed with any gun-type burner; adaptable to conversions. Flame temperatures of 1800 to 1900 F are attained. Flame burns 4 in. from spray nozzle at all times, preventing corrosion or carbonizing of 45° spray angle holocone nozzle. Adjustment of nozzle or other parts not required for installation. Special electrodes ignite flame automatically. Oilgas Generating Burner, Inc., 410 S. Jefferson St., New Castle, Pa.

Oran Shallo-Well: new gas-fired floor furnace with 90,000 Btu input rating designed for heating small homes with or without basements. New built-in air circulation fan; auxiliary cold air returns; all-steel burner; automatic fan switch, limit switch, and gas valve with thermostat and transformer. A.G.A.-approved for use with natural, manufactured, or LP gas. Oran Co., 2222 S. 3 St, Columbus 7, Ohio.

Homeaire Conditioner: new 2-package summer air-conditioning system for low- and medium-price homes, either old or new. Generator unit 32" x 13⅞" x 27"; conditioner unit, 28" x 21" x 23⅝", includes air filter, twin fans, and cooling coil. Equipment requires no water, is installed independently of heating system. 15,700 Btu's per hour capacity. York-Shipley, Inc., Penn R. R. and Jessop Pl., York, Pa.

construction

Fenestra Double-Hat Panel: designed in accordance with specifications of American Iron and Steel Institute, new light-gage steel panel for floors, ceiling, or roofs is manufactured in lengths up to 33 ft. Panels interlock to form subfloor or combination ceiling and roof; spot-welded to supporting structural beams or bearing walls. Produced in gages 18 through 13, 24" wide, depths from 1½" to 7½". May be electrified as floor or acoustically treated as wall or ceiling. Detroit Steel Products Co., 2250 E. Grand Blvd., Detroit 11, Mich.

Lifetime Aluminum Sheets: new corrugated aluminum sheets for roofing and siding and industrial corrugated sheets now available in 48" widths, compared to former 26" and 35" widths, respectively. Industrial sheets available in .032-in. (22 U. S. Std. Gage), come in lengths ranging from 5 to 12 ft; weight of material: 56 lb per 100 sq ft of formed sheet. Reynolds Metals Co., 2500 S. 3 St., Louisville, Ky.

doors and windows

Defender Locks: new line of standard-duty cylindrical locksets for light commercial and residential building; fully reversible and adjustable for doors 1⅜" to 1¾" thick. Features: ball-bearing latch bolt retractors, dual bearings to prevent knobs from becoming wobbly, concealed attaching screws and knob retainers. The American Hardware Corp., P. & F. Corbin Div., New Britain, Conn.

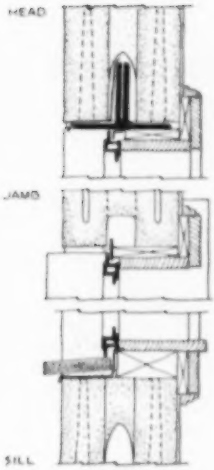
Silentite Awning Unit: new awning window has spring leaf bronze weatherstripping set in head jamb, overlap sash, concealed zinc-plated hardware, single crank below window operating all sash. Open or with single- or double-glazing and aluminum screens; 12 sizes. Curtis Companies, Inc., Clinton, Iowa.

Glass Seal Thermopane: new insulating window unit made of two sheets of flat-drawn glass with 3/16" air space between and fire-polished edge. Manufactured in smaller standard sizes beginning with 45½" x 25" size. Libbey-Owens-Ford Glass Co., Nicholas Bldg., Toledo 3, Ohio.

electrical equipment, lighting

Private Line: new line of telephone intercommunicating systems for business offices ranges in scope from 10-line automatic system to 50-line automatic system which can be expanded to over 5000 lines. Also 2- to 5-line system designed for professional offices and small businesses. Service features:

cavity and reinforced-wall concrete block



A cavity and reinforced-wall concrete block, which has been recently invented, makes possible the erection of a cavity wall in one operation. Such a wall will be more stable during the construction process and also will be stronger than one comprised of standard 4-in. blocks with metal ties. The bearing area of the solid material in each of the slabs is 37 sq in. as compared to 27.6 sq in. for a 4-in. block. A 2-in. space between the slabs can accommodate conduit and piping in both vertical and horizontal directions. To obtain a reinforced concrete-block wall, reinforcing bars can be placed in both directions with grout poured in. Two 3-in. webs opposite core openings in these blocks result in less transmission of moisture and cold air; insulation value is greater as there are three air spaces in the width of the wall. The U factor of a wall using these blocks may be considered the same as that of a cavity wall comprising 4-in. cored slabs with metal ties. Plaster or dry wallboard may be applied directly to the inside face of the wall after it has been painted with one coat of a waterproofing compound and vapor seal. Morris Lapidus, Inventor, 9031 Ft Hamilton Pkwy, Brooklyn 9, N. Y.

executive priority, voice paging, conference facilities, and automatic ringing. Connecticut Telephone & Electric Corp., Meriden, Conn.

Pioneer Lighting Fixture: steel and plastic fluorescent luminaire especially adapted for use in schools, offices, and retail stores. Overhead and down lighting; adaptable socket holder bridge; individual or continuous-row mounting. Smithcraft Lighting Division, Chelsea, Mass.

Spero PL-6 Lighting Unit: cast-aluminum lighting unit designed for walks, steps, garden, patio, and floor lighting. Shielded top and sides; light distribution: 120° arc. Six-watt lamp; fresnel lens; installed on utility box for flush mounting in concrete, stone, or plaster walls. The Spero Electric Corp., 14838 Euclid Ave., Cleveland 12, Ohio.

specialized equipment

Sound System Console: new line of centralized, school, sound-system consoles are designed as modular units for maximum flexibility of installation. Available in 2 basic lines: single- and dual-channel series, each available in regular and deluxe models with variety of accessories for added services. Basic single-channel system provides one channel for distribution of program material and separate channel for intercommunication. David Bogen Co., Inc., 29 9 Ave., New York 14, N. Y.

Atomizing System: automatic system for insect control in industrial plants and institutional buildings makes it possible for one man to spread insect-killing fog through all plant areas simultaneously. Atomizer units attached by pipeline both to insecticide reservoir located on plant roof and to plant's compressed air or steam system. Units break liquid insecticide into small droplets, forming fine dry mist. May be installed in existing building or incorporated in new building plans. West Disinfecting Co., Long Island City, N. Y.

surfacing materials

VinylBest: vinyl asbestos tiles for home and commercial use have been added to line of flooring material. Recommended for installation over, on, or below grade concrete floors in contact with ground, as well as suspended wood and concrete floors. Swirl marble design, 9" x 9" squares; 13 patterns in 1/8" gage, commercial weight tile, 12 patterns in 1/16" gage, household weight goods. Congoleum-Nairn Inc., 195 Belgrove Dr., Kearny, N. J.

Plextone: new paint with multiple colors which exist separately within finish gives multicolored textured effects on interior surfaces. Ordinary spray guns and regular spray techniques are used; can be applied to plaster, wood, wallboard, concrete, and metal. Various color combinations; also available in solid colors which can be mixed together by stirring to give other color effects. Maas & Waldstein Co., 2121 McCarter Highway, Newark, N. J.

Nerva-Plast: on-grade sealer for installation of rubber, vinyl, cork, wood, linoleum, and other floor coverings on concrete; not affected by extreme temperatures. Applied with straight edge trowel. Works equally well over radiant heat if heat has been cut off 3 hours before applications and remains off until solvents have evaporated. Rubber & Plastics Compound Co., Inc., Flooring Div., 30 Rockefeller Plaza, New York 20, N. Y.

automatic incinerator

Newly added to a line of home appliance products, the Consum-All gas incinerator, which is completely automatic, will dispose of any combustible household waste material. Two of the three available models, which accommodate either 1½ or 2½ bushels of waste material, are equipped with adjustable burning-time mechanisms and all are equipped with safety pilots in case of interruption of fuel supply. Each unit is fully insulated, has a hard-baked white-enameled exterior finish and a rust-proof and burn-proof refractory tile lining. Nonclogging air jets, cast into the refractory lining, supply the correct amount of heated oxygen, regardless of the level to which the burning chamber is filled. Consum-All burns natural, manufactured, or mixed gases. Cribben & Sexton Co., 700 N. Sacramento, Chicago 12, Ill.

p/a manufacturers' literature

★ *Editor's Note: Items starred are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.*

air and temperature control

1-33. Airtherm Centrifugal Fan Type Unit Heaters (143), 16-p. catalog containing description, photos, applications, specifications, and optional features of centrifugal fan-type unit heaters. Diagrams show typical mounting arrangements; tables and charts give information on capacities of various models. Airtherm Mfg. Co., 749 S. Spring Ave., St. Louis 10, Mo.

1-34. Curtis Refrigeration, Air Conditioning (RS2A) 8-p. bulletin describing air-cooled, water-cooled, and combination condensing units, packaged and central-type air conditioners, cooling towers, and other equipment. Specifications, photos of units, tables of capacities. Curtis Mfg. Co., Curtis Refrigeration Div., 1923 Kienlen Ave., St. Louis 20, Mo.

★ **1-35. Architect's Guide to the General Electric Heat Pump** (AM77-2603), 16-p. brochure discussing the design advantages of the heat pump and its adaptability to architectural plans. Application suggestions, question and answer section, drawings. General Electric Co., Heat Pump Dept., 5 Lawrence St., Bloomfield, N. J.

1-36. Korfund Vibration and Noise Isolation Bases for Fans and Motors (FB-802), 4-p. folder giving illustrations, descriptions, and specifications of twin rail bases and other vibration isolation equipment. Case histories, photos of equipment, drawings, ordering information. The Korfund Co., Inc., 48-15 32 Pl., Long Island City 1, N. Y.

1-37. Electric Radiant Heat, A.I.A. 30-C-4, 94-p. brochure with detailed data on radiant heating cable, thermostatic control, covering material for cable, load-control panel, use of cable to prevent water-pipe freezing. Study of heat patterns in three school rooms; greenhouses and greenhouse equipment. Photos, drawings, charts. L. N. Roberson Co., 1539 E. 103 St., Seattle, Wash.

1-38. Koven Trimrad Baseboard Radiators (45320), 12-p. booklet giving information on baseboard radiators of welded steel with heating 50% by radiation, 50% by convection. Approved table of IBR capacities, typical baseboard and piping layouts, roughing-in dimensions, installation instructions for recessed or standard mountings. Waterfilm Boilers, Inc., 36-40 New York Ave., Jersey City 7, N. J.

★ **1-39. Factory-Coordinated Industrial Fuel Burning Systems,** 16-p. booklet with supplementary sheets describing new packaged system for conversion of large boilers to oil or gas firing. System includes burner for oil or gas firing, panel-mounted controls wired to terminal strips for easy connection, factory-engineered windbox assembly and refractory ring, fuel oil heaters, and trim. Specifications, dimensional drawings, and photos of equipment. York-Shipley, Inc., York, Pa.

construction

2-39. Mult-A-Frame, A.I.A. 35-I (100), 50-p. catalog giving information on steel framing material for racks, supports, hangers, fittings, benches, trusses, platforms, scaffolds, and other uses. Heavy-duty and standard channel frames, spring-T-bolt and nut, safe-locking fittings; also pipe roller supports, pipe and tubing clamps, concrete inserts. Properties of sections, drawings, photos. Ainsworth Mfg. Corp., Mult-A-Frame Div., 1471 E. Atwater St., Detroit 7, Mich.

2-40. Specifications Recommended to Secure Dry Brick Walls, A.I.A. 5-M, 16-p. booklet awarded Honorable Mention Citation in 1953 Building Products Literature Competition sponsored by A.I.A. Results of studies by research authorities on causes and prevention of leaky brick walls, recommended specifications with illustrations, references and additional bibliography. Louisville Cement Co., Inc., 315 Guthrie St., Louisville 2, Ky.

2-41. Loxit Floor-Laying System, A.I.A. 19-E-9 (F.L. 1953), 8-p. catalog listing advantages of mechanical wood floor-laying system which does not require special tools. Typical specifications for floors, floor details, cutaway drawings, instructions to contractors. Loxit Systems, Inc., 1217 W. Washington Blvd., Chicago 7, Ill.

2-42. McKeown Church Arches, A.I.A. 19-B-3, 8-p. brochure illustrating church arches of wood including A frame, solid timber truss; "scissors" truss with either straight or curved braces; hammer beam with Gothic arch; braced arch truss, with or without purlins; and three-hinged or triangular arches extending into foundations or beams. Data, photos, drawings. McKeown Bros. Co., 5303 S. Keeler Ave., Chicago 32, Ill.

2-43. New Values in Cold Storage Construction, A.I.A. 37-D-1, 16-p. brochure describing new dry-wall installation methods for glass-fiber cold storage insulation. Three methods are outlined as well as traditional hot-dip method. Also design details for glass-fiber roof and floor insulation. Photos, drawings. Owens-Corning Fiberglas Corp., Nicholas Bldg., Toledo 1, Ohio.

2-44. Steelcraft Insulated Metal Wall Panels, A.I.A. 17-A (IPC-53), 8-p. catalog with descriptive information, illustrations, specifications, and detailed drawings of new insulated metal wall panel designed for economical curtain wall construction. Specifications, typical construction details, data on available materials, textures, and colors. The Steelcraft Mfg. Co., 9017 Blue Ash Rd., Rossmoyne, Ohio.

doors and windows

3-42. Auto-Lok Aluminum Windows. A.I.A. 16-E (AW 1953-1), 16-p. brochure describing line of aluminum windows with weatherstripping combined with patented self-locking action and double contact. Illustration of operating principle, full-size details, standard and modular types and sizes, installation details, and specifications. Ludman Corp., P. O. Box 4541, Miami, Fla.

3-43. Norwalk Locks for the Home (N100), 8-p. bulletin covering line of cylindrical and tubular locksets for residential use, including exterior keysets to entrance doors, interior locksets and latchsets, and cylindrical lock handles. Discussion of features, drawings, other data. Norwalk Lock Co., 395 Broadway, New York 13, N. Y.

3-44. Overly Fire Doorater and Swing Guide, A.I.A. 16-A and 16-B, 4-p. 1952-1953 issue, awarded Certificate of Exceptional Merit in 1953 Products Literature Competition sponsored by A.I.A.; based on Underwriters' Laboratories fire door requirements. Information such as hourly ratings, maximum opening sizes, minimum door thickness, maximum glass area, frames, door operation, and hardware for five classifications for fire doors. Also information on how to determine door swing from key side. Overly Mfg. Co., Greensburg, Pa.

3-45. Reynolds Aluminum Residential Windows, A.I.A. 16-E (BP 309-H), 20-p. catalog giving detailed information on casement, awning, and double-hung types of residential aluminum windows. Specifications, cross-section details, sizes and types, installation information. Photos, drawings, charts. Reynolds Metals Co., Building Products Div., 2000 S. 9 St., Louisville 1, Ky.

3-46. Stanley Hinge Guide, A.I.A. 27-B (H35R), 20-p. revised catalog awarded Honorable Mention Citation in 1953 Building Products Literature Competition sponsored by A.I.A. Requirements for selection of proper hinge specification, detailed descriptions of hardware, butt hinge requirements for Underwriters' Laboratories, available metals and finishes, U. S. Government type numbers listed in federal specifications FF-H-106a and FF-H-111a. The Stanley Works, New Britain, Conn.

electrical equipment, lighting

4-25. The Bulldog Vacu-Break Panelboard (VP-450), 12-p. bulletin containing descriptive material, dimensional data, horsepower ratings, and other information on quick-make, quick-break panelboards, arc-

snuffing switch units, and 2½" sliding contact unit. Suggested specifications, photos, drawings, charts. Bulldog Electric Products Co., 7610 Jos. Campau Ave., Detroit 32, Mich.

Two catalogs describing line of equipment for theater and television lighting. Theater lighting: lighting schedule for small and large stages, detailed data on spotlights, floodlights, striplights, scenic effect devices, control equipment, and various types of accessories. Television lighting: aluminum-enclosed spotlights, light-lifts, flood units, striplights, mike booms, and connector strips. Photos, dimensions, and prices of equipment. Century Lighting, Inc., 521 W. 43 St., New York 36, N. Y.

4-26. Theatrical Lighting (1)

4-27. New Equipment for Studio Lighting

4-28. Television Studio Lighting System, 20-p. report covering a grounded lighting system designed to provide general and special-effect stage illumination required for television studio broadcasting. Components tested under requirements of Underwriters' Laboratories. Installation details, lighting facilities for various sized TV studios, equipment lists, drawings. Kliegl Bros. Universal Electric Stage Lighting Co., Inc., 321 W. 50 St., New York 18, N. Y.

★ **4-29. Contemporary Lighting,** A.I.A. 31-F (KV646), 60-p. catalog describing developments in incandescent lighting. New equipment includes line of recessed fixtures especially adapted to acoustical ceilings of tile, panel, or perforated metal construction; built-in slice box; improved heavy-duty, high-friction swivel. Photos, summary of installation procedure, roughing dimensions of recessed, indirect, swivel, and custom-built fixtures. Kurt Versen Co., Englewood, N. J.

finishers and protectors

5-11. Let's Look at Membranes, A.I.A. 7-A-1, 16-p. brochure presenting technical information on an inorganic waterproofing membrane made of glass fiber, compatible with any accepted waterproofing compound. Characteristics, advantages, and applications of membrane; case histories, application specifications; material specifications; production standards. Photos, drawings, charts. Twinsburg-Miller Corp., P. O. Box 207, Twinsburg, Ohio.

insulation (thermal, acoustic)

6-15. Foamglas: Low-Temperature Space Insulation for Walls, Ceilings, and Floors, A.I.A. 37-B (FL-100), 24-p. booklet listing finishes, suggested thicknesses, insulation values, and properties of an insulating material made of rigid foamed glass block. Information on application methods for material on ceilings, walls, and floors. Photos, drawings, charts. Pittsburgh Corning Corp., 1 Gateway Center, Pittsburgh 22, Pa.

specialized equipment

8-22. Is Space a Problem in Your Library?, A.I.A. 35-B-2 (BS-6/53), 4-p. folder describing book drawers interchangeable with regular shelving which provide greater storage space. Volumes are placed in parallel rows full depth of drawer and held in position by adjustable book support. Discussion of advantages, photos, fact sheet for estimate of increased storage capacity. W. F. Ames Co., 150 Hooper St., San Francisco 7, Calif.

8-23. Hotpoint All-Electric Commercial Cooking Equipment (JN-203), 4-p. folder showing ranges, broilers, counters, fry kettles, ovens, and griddles for commercial kitchens. Features, dimensions, voltages, photos of equipment. Hotpoint Co., 227 S. Seeley Ave., Chicago 12, Ill.

8-24. Super Service Banking Drive-In Plans Manual (B24), 12-p. booklet covering number of banking drive-in installations. Illustrations accompanied by schematic drawings showing dimensions, proper radius of turn, spacing of multiple drive-in windows, and traffic flow markings. Photo and cutaway drawing of night depository. The Mosler Safe Co., 320 5 Ave., New York 1, N. Y.

8-25. Castle-CBS Color Television ★ (17), 12-p. booklet describing an intramural system for visual education by which medical and surgical procedures are transmitted in true colors. Three-lens turret permits increase or decrease in area and magnification of site to be televised. Typical plan for 3-receiver installation, description of camera-light unit; also supplementary equipment available for more extensive installations. Wilmot Castle Co., 1255 University Ave., Rochester 7, N. Y.

surfacing materials

9-11. An Amazing New Advance in Vinyl Flooring (310), 4-p. catalog in color showing line of vinyl tile including 9" x 9" tiles, feature strips, and special decorative inserts for kitchens, playrooms, nurseries, hotels, restaurants, and stores. Photos illustrate typical residential and commercial installations. Color chart, data on sizes and thicknesses. Kentile Inc., 58 2 Ave., Brooklyn 15, N. Y.

9-12. This Is Mosaic Tile, A.I.A. 23-A (156), 16-p. revised catalog describing line of ceramic floor and wall tile, including mosaic, quarry, electrically-conductive, and hard-glaze tiles; decorated wall tile, inserts, strips, and panels. Color photos of installations and individual tiles. Booklet awarded Honorable Mention Citation in 1953 Building Products Literature Competition sponsored by A.I.A. The Mosaic Tile Co., Zanesville, Ohio.

(To obtain literature, coupon must be used by 11/1/53.)

(We request students to send their inquiries directly to the manufacturers.)

PROGRESSIVE ARCHITECTURE, 330 West 42nd Street, New York 36, N. Y.
I should like a copy of each piece of Manufacturers' Literature circled below.

1-33	1-34	1-35	1-36	1-37	1-38	1-39	2-39
2-40	2-41	2-42	2-43	2-44	3-42	3-43	3-44
3-45	3-46	4-25	4-26	4-27	4-28	4-29	5-11
6-15	8-22	8-23	8-24	8-25	9-11	9-12	

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ANOTHER CASE OF

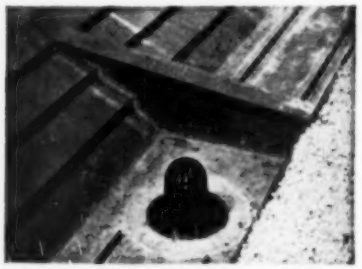
Copper

WHERE IT COUNTS

UNITED NATIONS GENERAL ASSEMBLY BUILDING, NEW YORK, N. Y.

"COPPER SOLDERS TO PERFECTION," sheet metal contractor on this job, A. MUNDER & SONS, L. I. City, N. Y., will tell you. Because of the roof design, gutters had to be tremendous, measuring 2' wide at the bottom and 5' across the top, with runs on the long sides of the building of 350'.

U. N. GENERAL ASSEMBLY BUILDING. Architects—U. N. HEADQUARTERS PLANNING OFFICE. WALLACE K. HARRISON, Director of Planning.



DETAIL OF EXPANSION JOINT in box gutter atop the United Nations General Assembly Building. 47,000 lbs. of 20 oz. Revere Lead Coated Copper was used for gutters and flashing.

ENDURING LEAD COATED COPPER also covers the dome of this famous building. "Building to last" invariably means building with copper.

HAVE you ever noticed in structures built to last, such as state capitols, libraries, churches, and schools, that invariably copper gets the call? There are valid reasons for this. The enduring qualities of copper, tested and proven by centuries of use, are indisputable. Copper cannot rust or rot, needs no painting, in fact improves with age by taking on a green patina that adds protection and beauty. And sheet metal contractors prefer it because it is readily worked and takes solder like no other metal. In fact, there is not another single metal or alloy that has all the desirable construction characteristics of copper.

It is for your protection and that of your clients to specify proven products such as copper. And now, with restrictions on the use of copper ended there isn't any reason why your next job can't have the many benefits of Revere Copper. See the Revere Distributor nearest you about Revere Sheet, Strip or Roll Copper for flashing. Be sure to ask him about the money-saving advantages of Revere Keystone Thru-Wall Flashing.*

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meaty media

Now I appreciate the true meaning of "captive audience". As one of the jury for the 1953 Product Literature Competition, conducted jointly by The American Institute of Architects and The Producers' Council, Inc., it was a duty to wade conscientiously through hundreds of submissions. And did we wade! For two days we waded. They were small and large, thick and thin, black and white, and colors galore. They were bound at the side, bound at the top, bound at the bottom, and boundless too. Much of the text was pregnant with excellent context and some of the text was textless. Seriously, it was easy to see that the jury was impressed wherever producers accentuated the informational and played down the hoopla. As the years go by, I can see the stuff improving markedly. If the trend continues where the devil are we going to file this increasing mass of meaty media? In the interest of helping specification writers receive better product literature —and since I am certain I won't have to serve on the jury next year—I should like to encourage more producers to send in their entries. If you should win an award, you have something a little extra to crow about when you run out of adjectives. Here are the classifications:

Class I. Literature concerned primarily with basic technical information. Includes manuals, handbooks, and any material offering principally general information on design, specification, methods of application, standards of workmanship, maintenance, and the like, with regard to a class or type of product where the emphasis is upon the problem of where and how to use the product to best advantage, rather than on the merits of a particular make. This does not imply that the publication may not be that of an individual manufacturer, nor that mention may not be made of the specific application of the general principles to his own product.

Class II. Literature offering technical information confined to the particular products of a single manufacturer. Includes catalogs, catalog-manuals or combinations of product data with data on use and application, wherein emphasis is centered primarily on the products of an individual manufacturer.

Class III. Literature of primarily promotional nature. Includes any literature of intentionally less complete nature—sheets and short folders such as reminders, announcements, testimonials, test data, case histories, or other information supplemental to *Classes I* and *II*, intended to keep the manufacturer's name in the architect's attention. While promotional, it must be informative, educational, and directed to architects, rather than the trade or the general public.

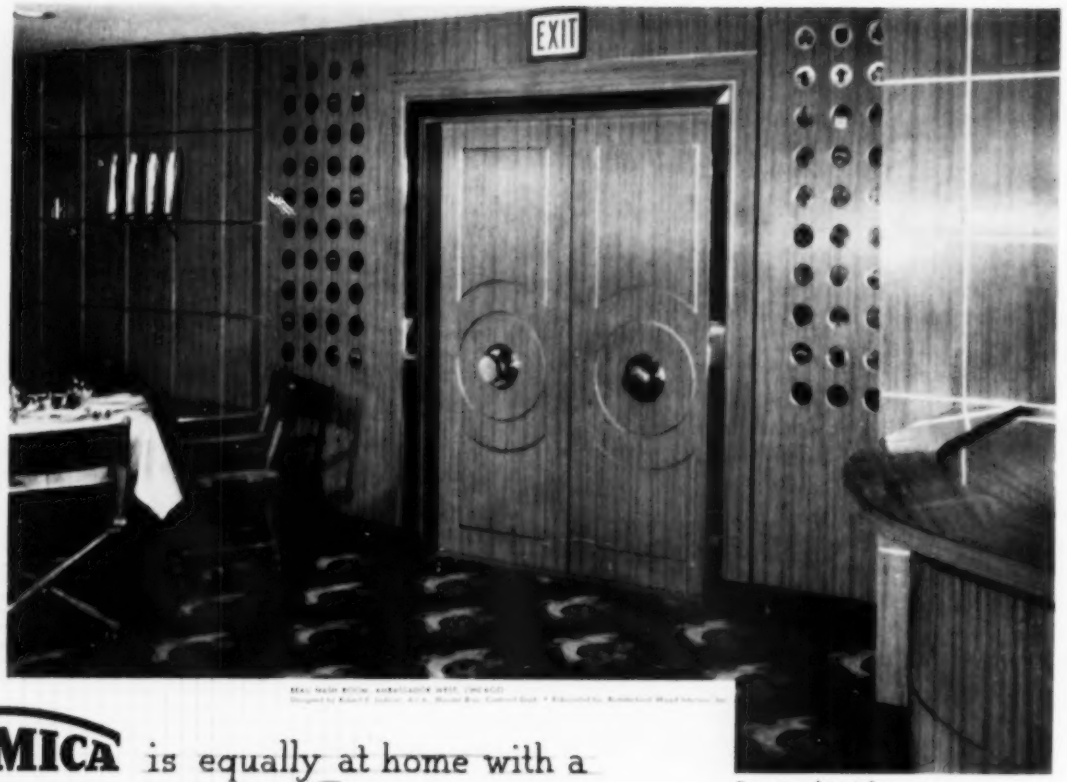
Class IV. Space advertising directed primarily to the architect.

M.N.Y.C.C.S.I.

The title of this piece stands for Metropolitan New York Chapter of the Construction Specification Institute. I was elected president of this distinguished body recently and hope my body will permit service to their body with distinction. My predecessor, Joseph A. McGinniss, darn near lost his practice as a freelance specification writer, in his selfless devotion to M.N.Y.C. In addition to the New York Chapter, there is quite a number of other chapters throughout the country. If there is not one in your area, why not write the national body at 1825 K Street, N.W., Washington 6, D. C., for data on organizing one. It is a good thing I was not elected to the D.A.R., else you never would have heard the end of it.

health note

I do not know why, but it does amuse me to see how our British cousins humanize technical descriptives of building products. A manufacturer of a cement water paint refers to his project as *stubborn* and *tenacious*, suitable for application over *healthy* surfaces free from *distemper*. Since I have struck a health note, perhaps you will be interested in what Copper & Brass Research Association has to say on the subject of copper and health. As a matter of fact, I think it would be well for you to read their booklet on this subject from which the following summary is cribbed: "Considering all of the data presented in this booklet, and weighing the various theories and opinions expressed through the ages one against the other, several definite conclusions can be drawn. The first is that copper is not poisonous. When a large amount of copper is introduced into a body any toxic effect is only temporary, as the body immediately ejects it. Small amounts of copper do not accumulate in the body but are eliminated naturally. People who work in close contact with copper or one of its alloys for many years acquire no occupational diseases attributable to the red metal. Human beings have used copper and its alloys for personal adornment, for tools, cooking utensils, and surgical instruments for countless generations, without detrimental effects. Finally, copper is found in nearly all soils and plants, and in the vital organs and blood of virtually all animals and human beings. It is considered by all authorities to be a most essential factor in the intricate cycle of life on earth. It is vital to the good health and proper functioning of all plant and animal life and when copper is lacking in plants, animals, or humans it must be supplied. Therefore copper has an important role as a plant and animal nutrient and as a medicine for humans. Certainly, we can now discard once and for all time the ancient notion, based on superstition and ignorance, that copper is poisonous or harmful to human health under normal conditions. In fact, rather than being a menace, copper is one of the necessary elements of life." Well, Mr. Monel, don't just sit there, what's medically new with your stuff?



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Page Beauchamp: inside TV stations

Probably because of the relative newness of the television industry, there is still a dearth of well-designed offices and spaces for customers or clients. Although the business is growing by leaps and bounds, somehow attention to interior design of these spaces has been by-passed. In many cases, old theaters and movie houses have been taken over because they offer the required space and usable acoustical properties, and are immediately available.

With newness and greatness and driving pace, there has hardly been time or space to stop, consider, and design adequate facilities. The studios themselves, particularly in New York, are set up in every available place to handle programs that may require several studios as well as rehearsal spaces. Offices are set up in left-over spaces. But all of this will change. Attention must be given to properly designed offices, because they have so much to do with the important aspect of selling the client: more important in this industry than many others, because its life-blood is drama (effective presentation, stage setting, lighting, production, and advertising).

The offices, usually the first point of contact with a prospective client can, of course, help immeasurably in achieving this aim. If an executive has facilities at hand to present material efficiently—utilizing up-to-date techniques aided by successful interior design—his success will be much more likely. Similarly, the half-measure, sketchily-presented program, and an office or audition room which seems to have no character or permanence or organization, will tend to discourage a new prospect—who possibly doubts the stability and importance of the new medium.

Here, as in so many instances, double or multipurpose rooms can be helpful. In fact, they are practically a necessity because of the high cost of space. Here is a relatively untouched field open to the interior architect or designer—and he is the one to approach the problem and solve it.

On the following pages are examples of some of the best solutions already completed. The CBS rooms are a remodeling job—expertly done where space was at a premium. The WCAU rooms are in a newly-built building which permitted ample space.

inside TV stations

Designed to serve many uses, this is a board room, a dining room, a meeting room, and an informal television-audition room. One might expect such a hybrid to end being neither one or the other—and without much character. But such is not the case. This is an interesting combination of formality and informality, of dignity and ease. The color key is severe—walls, carpeting, and drapery background are all off-white. The drapery print is gold and black, the upholstered furniture is solid black. Furniture is overscaled to emphasize dignity befitting a board room, yet the design is simple and airy to permit a certain informality. In all, the result is extremely pleasant and satisfying. *Photos: Ben Schnall*

location | Board and Dining Room, TV Division, Columbia Broadcasting System, Inc., New York, New York

interior designers | Maurice and Joseph Mogulescu and G. Luss: Designs for Business, Inc.

printed raw silk

acoustical tile

data

cabinetwork

Modular Wall Cabinet: custom/ recessed/ closet bar unit and television enclosure/ designed by G. Luss: Designs for Business, Inc./ executed by Ezra Blank Associates, 117 Lombardy St., Brooklyn, N. Y.

Doors: custom/ 4' x 9'/ executed by Ezra Blank Associates.

equipment

Television Equipment: Columbia Laboratories, 485 Madison Ave., New York, N. Y.

furnishings and fabrics

Board Table: custom/ 13' long/ Real wood Walnut Parkwood Laminate Top/ designed by G. Luss/ executed by Ezra Blank Associates.

Dining Chairs: #1061-A/ cane open armchair/ designed by G. Luss/ executed by Lehigh Furniture Corp., 16 E. 53 St., New York, N. Y.

Lounge Chairs: #2020/ open arm easy chair/ designed by G. Luss/ executed by Lehigh Furniture Corp.

Sofa: #5015/ custom 12' long/ designed by G. Luss/ executed by Lehigh Furniture Corp.

Occasional Tables: custom designed by G. Luss/ executed by Lehigh Furniture Corp.

Drapery: "Salt Sticks"/ black-and-gold lines on raw Italian silk/ Arundell Clarke, 31½ E. 65 St., New York, N. Y.

lighting

Ceiling Fixtures: #168/ Hi Hat/ open baffle downlight/ Century Lighting Co., 521 W. 43 St., New York, N. Y.

Chandelier: #A 1956/ adjustable/ polished brass/ silk diffusing line/ Finland House, 41 E. 50 St., New York, N. Y.

Table Lamps: handmade ceramic base/ jet black/ white Fiberglas shade/ Berrier-Grazzini, 296 E. 49 St., New York, N. Y.

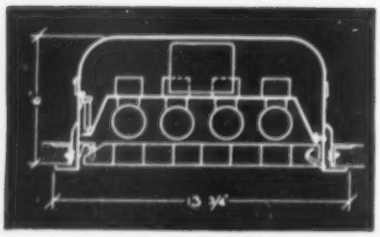
walls, ceiling, flooring

Walls: painted plaster.

Ceiling: acoustical tile/ "Acoustone F"/ U. S. Gypsum Company, 488 Madison Ave., New York, N. Y.

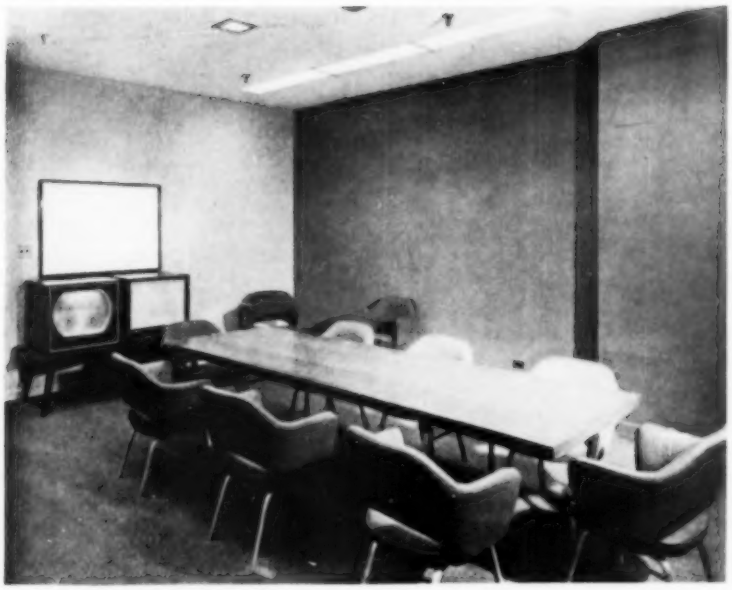
Floor Covering: "Champion"/ cotton chenille/ Vogue Carpet Corp., 17 E. 53 St., New York, N. Y.

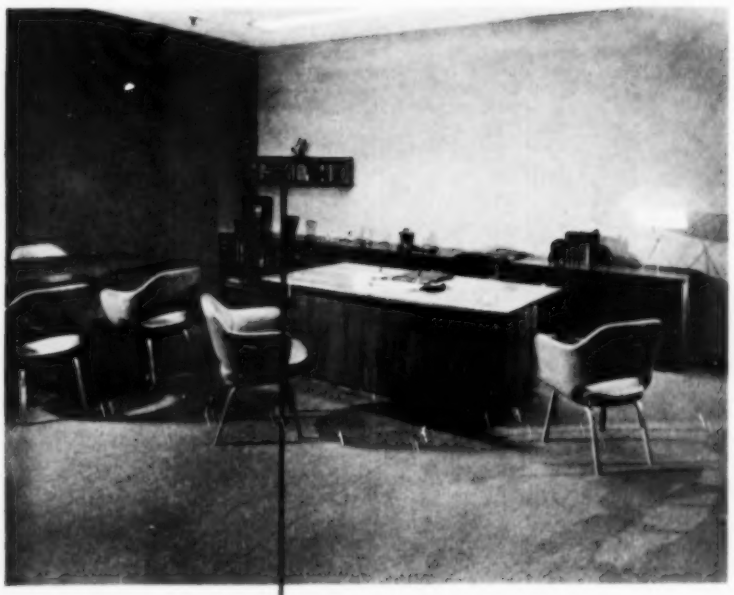
inside TV stations



Interior design of these executives' rooms has been executed in a simple, straightforward manner. Airiness, openness, and a feeling of space is achieved through uncluttered wall areas, a concentration on plain fabrics, and reliance on texture and color for attractiveness. The use of the same chair throughout gives the various areas unity. With the exception of the chair, all other furniture has been custom-designed by the architects. The conference room is adjacent to the president's office. The carpet is beige-and-brown flecked. Three walls in the president's office are beige, with a blue-green texture on the fourth (*left*). Upholstery is tan and brown leather. Wall color in the conference room also is beige, with a medium-blue fabric on the chairs.

Photos: William M. Rittase





hanging bookshelf

data

equipment

Television Screen (Conference Room): designed by Howe and Brown/ executed by Edward J. Friel Co., 2539 Germantown Ave., Philadelphia, Pa.

furnishings and fabrics

Upholstered Armchair: #71/ 24" x 24" x 30"h./ designed by Eero Saarinen/ **retail**: $150. in muslin/ Knoll Associates, Inc., 575 Madison Ave., New York, 22, N. Y.

Sofas: designed by Howe and Brown/ executed by Gimbel Bros., Philadelphia, Pa.

Tables, Bookcases, Desk, Television Bench: designed by Howe and Brown/ executed by McCloskey-Grant Corp., 20th Ave. & Indiana Ave., Philadelphia, Pa./ metal legs manufactured by John G. Leise Metal Works, 1817 N. 5 St., Philadelphia, Pa.

Carpets: James Lees & Sons Co., Bridgeport, Pa.

lighting

Table Lamp: designed by T. H. Robsjohn-Gibbings/ The Widdicomb Furniture Company, Grand Rapids, Mich.

Troffers: #42235-4/ recessed/ diffusing lens/ 2—40 watt fluorescent tubes/ Day Brite Lighting, Inc., 5434 Bulwer Ave., St. Louis, Mo.

Square Fixtures (Lounge): #SK348-L44/ recessed louvers with 3—40 watt fluorescent lamps/ available for 2, 3, or 4 lamps/ Neo-Ray Products, Inc., 315 E. 22 St., New York 10, N. Y.

walls, ceiling, flooring

Walls: painted plaster.

Ceiling: acoustical tile.

Flooring: asphalt tile and concrete.

location	Conference Room, President's Office, and Lounge, WCAU-TV Center, Philadelphia, Pa.
architects	George Howe and Robert Montgomery Brown
designers, engineers, and builders	The Austin Company

inside TV stations

television controls

sliding desk file

data

cabinetwork

Storage Wall: houses television, black-and-white and color, closet and wardrobe facilities, stationery supplies/ 12" below ceiling incorporates double strip fluorescent lighting/ designed by G. Luss: Designs for Business, Inc./ executed by Ezra Blank Associates, 117 Lombardy St., Brooklyn, N. Y.

Doors: 4' x 9' flush walnut/ custom designed/ executed by Ezra Blank Associates.

equipment

Television Equipment: Columbia Laboratories, 485 Madison Ave., New York, N. Y.

furnishings and fabrics

Desk: custom-designed/ L-shaped combination conference and work area/ work area top, ¾" Herculite glass/ plastic suspended section contains dictating machine/ telephone controls, television controls/ sliding unit at corner is accessible to work area when necessary/ designed by G. Luss/ executed by Ezra Blank Associates.

Desk Chairs: #C-120/ upholstered open armchairs/ Jens Risom Design Inc., 49 E. 53 St., New York 22, N. Y.

Swivel Chair: special/ leather upholstery/ Jens Risom Design Inc.

Sofa: #5015/ custom/ 10 ft. long/ Lehigh Furniture Corp., 16 E. 53 St., New York, N. Y.

Lounge Chairs: #4030/ Lehigh Furniture Corp.

Occasional Tables: custom/ ½" plate glass top cocktail table/ walnut, plastic-laminate top, end table/ walnut legs polished brass leggings/ designed by G. Luss/ executed by Lehigh Furniture Corp.

Drapery: custom/ coral- white- gray hand-woven fabric/ Willich-Franke Studios, 305 E. 63 St., New York, N. Y.

lighting

Surface Ceiling Fixtures: #841/ Plexiglas diffusing cover/ Lightolier Corporation, 11 E. 36 St., New York, N. Y.

Table Lamp: custom/ hand-made ceramic base/ Fibreglas shade with hemp covering/ Berrier-Gnazzo, 206 E. 49 St., New York, N. Y.

walls, ceiling, flooring

Walls: painted plaster.

Ceiling: "Acoustone F"/ acoustical tile/ U. S. Gypsum Company, 488 Madison Ave., New York, N. Y.

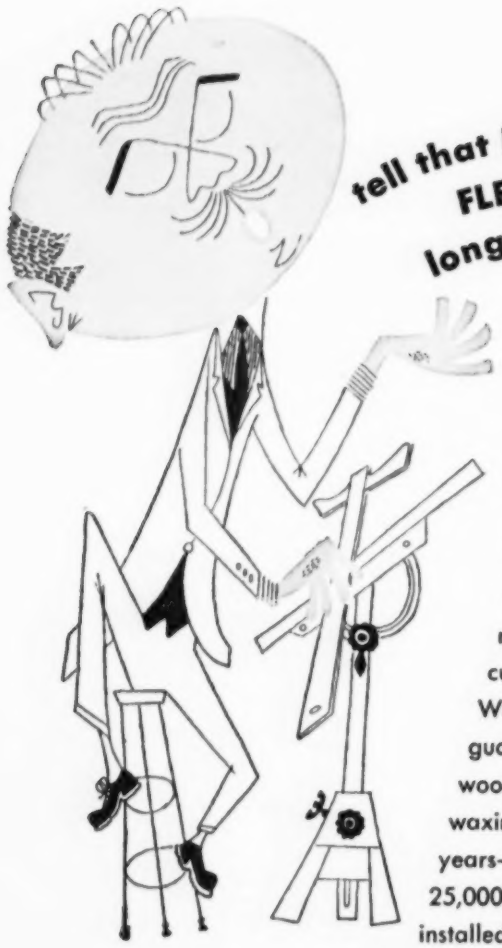
Floor Covering: custom-dyed gray-beige carpet.

location | President's Office, TV Division, Columbia Broadcasting System, Inc., New York, New York

interior designers | Maurice and Joseph Mogulescu and G. Luss: Designs for Business, Inc.

In this office, several services were to be accommodated—desk space for working area, a separate conference table, and an informal seating area. The television screens were to be visible from the conference table and also the seating area. The custom-designed L-shaped desk separates the working and conference areas, and co-ordinates to either phase with a minimum of effort. The television screens, controlled from the desk, were placed in the flush storage wall, convenient yet inconspicuous, furthering the look of spaciousness. All wood surfaces are walnut, with brass hardware. Gray, coral, and white is the color scheme. Here is grace and comfort, beautifully combined with efficiency and ease of operation—and simple elegance.

Photos: Ben Schnall



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The Industrial Designers' Institute has presented awards to the designers of the two products shown on this page. Awards are given for noteworthy approach to design and function, combined with a practical use of appropriate materials in a product that is mass-produced and nationally distributed. This is a form of public recognition for truly progressive and worthwhile achievements, with the hope of focusing attention and at the same time protecting the consumer and designer.

Office Refrigerator, designed by Donald Dailey: "Wonderbar" and "Wondercart"/ one-piece molded plastic case/ available with legged base or wheels/ case may be had in blond, mahogany or white finish/ height, 38-3/4"; depth, 27"; width, 26½"/ portable/ electric/ retail: $199.45/ Servel, Inc.

Recording Machine, designed by Carl Otto: "The V. P. Edison Voicewriter"/ weight, 12 pounds, including hand microphone/ height, 2-7/16"; width, 11-15/16"; length, 9-7/16"/ 4-in-1 control operates recording, playing back a few sentences, complete playback/ has keys for Back Spacer, Length, Correction/ recording time per disc is thirty minutes/ **Thomas A. Edison Incorporated, West Orange, N. J.**

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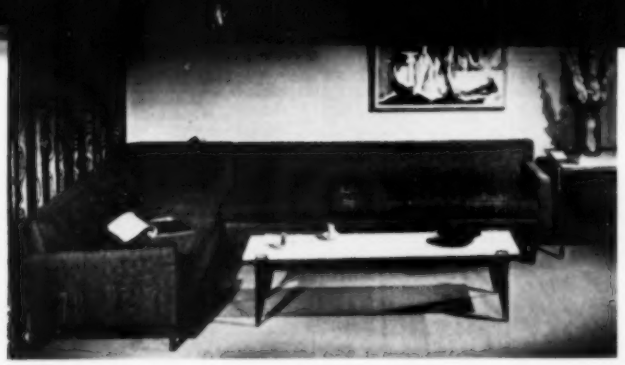

1

On this and the following IDD Products page are shown new designs of furniture exhibited at the markets in Grand Rapids and Chicago. This is not by any means a complete coverage, but a selection to illustrate current design thinking which we find very interesting.

1. Seating Units: #144-145 Series/ low backed height 27"/ available in any length, with or without arms (high or low) designed by Bertha Schaefer/ length shown, 7 feet/ **retail:** $397, two arm; $360, one arm, in muslin/ **M. Singer & Sons, 32-38 East 19 St., New York, N. Y.**

2. Dining Group: #329 table, #1065 side chair, #107 armchair/ mahogany finished in "Charal" tone/ designed by Warner Cleveland/ **retail:** $196.50, table; $55, side chair; $66, arm chair/ **The Imperial Furniture Company, Grand Rapids, Mich.**

3. Dining Table and Chairs: #4602, #4103/ teak top table with natural beech legs/ tripod chairs/ designed by Hans Wegner/ **retail:** $170, table; $38.50, chair/ **Richards Morgenthau Company, 225 Fifth Ave., New York 10 N. Y.**

4. Executive Armchair: #C103/ companion to swivel armchair for desk/ available with birch or walnut base/ width, 28"; depth, 29"; height, 36"/ **retail:** $196, in muslin/ **Jens Risom Design Inc., 49 East 53 St., New York, N. Y.**

5. Side and Arm Chairs: #270, #170/ available with birch or walnut frame, curved laminated seat and back upholstered in foam rubber/ **retails:** $104, $134, in muslin/ **Jens Risom Design Inc.**

6. Buffet, Server, and China Cabinet: "Butler Buffet"/ two sliding serving trays at top/ compartmented silver drawer/ four linen drawers/ sliding shelves for china/ tall section for serving pieces/ grooved section for trays/ filler drawer at base/ mahogany/ **retail:** $504/ **Grand Rapids Chair Co., 1661 Monroe Ave., N. W., Grand Rapids, Mich.**

2

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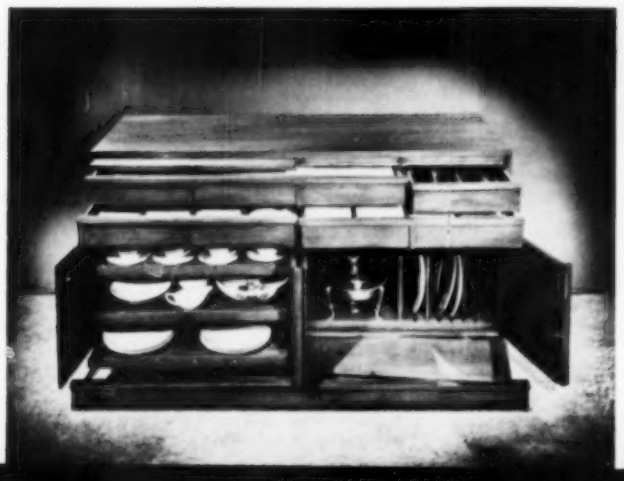
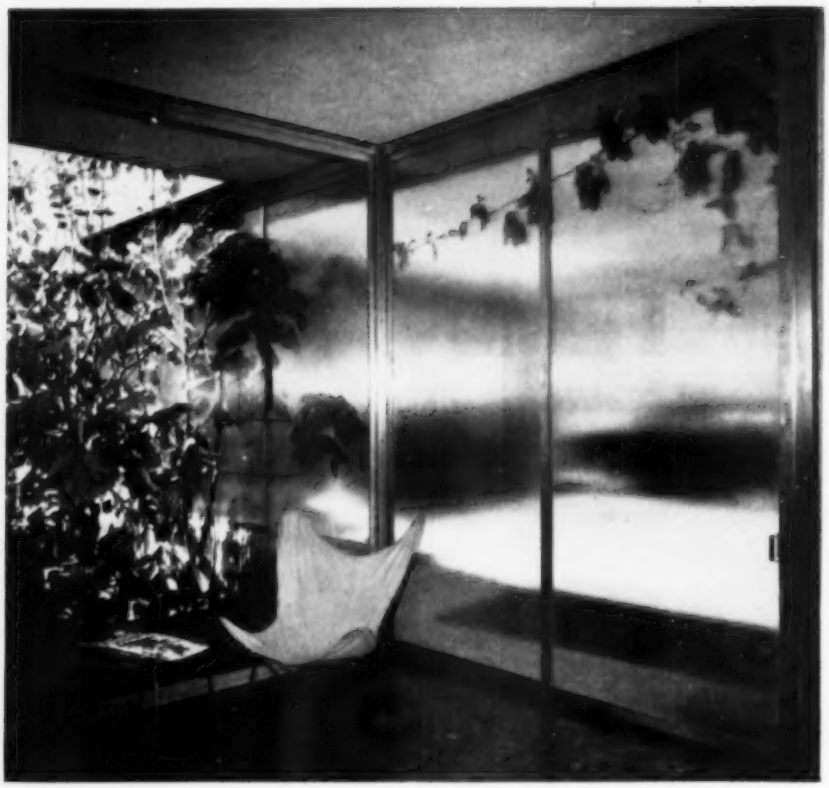
6



with this glass—



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This installation is in the home of a well-known architectural photographer—Julius Shulman—a man who works continuously with light, color, beautiful architectural effects. He and his architect, Raphael Soriano, chose Blue Ridge Skytex pattern to glaze the sliding doors. The beautiful pattern provides obscurity, yet decorates with light and color from either side.

There are many Blue Ridge patterns from which you can choose—linear, checkered and over-all patterns—in plain, textured and *Satinol** finishes. Your Libbey·Owens·Ford Glass Distributor or Dealer can show you samples of this beautiful glass. He's listed under "Glass" in the yellow pages of phone books in many principal cities. Ask him, or mail the coupon, for copies of our two books of decorating ideas. *R

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p/a interior design products

1

1. Modular Desk: #SLD-7/ three-drawer desk top/ tri-legged saw horse base/ pull-through lower drawer/ any number of suspended drawers may be used/ top and legs available in walnut, birch, or ebony finish/ **retail:** $89, top, two legs, one suspended drawer/ $52, legs and top/ $15, two legs/ **Richards Morgenthau, 225 Fifth Avenue, New York, N. Y.**

2. Shell-shaped Chair: "Calcutta"/ circular black wrought iron base/ heavy woven-rattan seat with spar varnish finish/ designed by John Risley/ **retail:** $34.95/ **Ficks Reed Company, Cincinnati, Ohio**

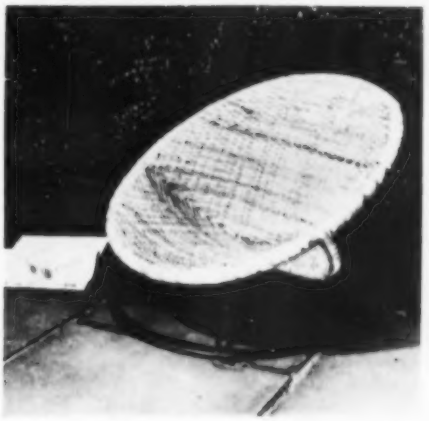
3. Bow Chair: #105/ cotton yacht cord wound on wrought steel frame/ cord available in white, sandalwood tan, leaf green, black/ frame finished with vinyl coating/ **retail:** $20/ **Allan Gould Designs, Inc., 166 Lexington Ave., New York 16, N. Y.**

4. Beech Plywood Chair: #3100/ plastic coated steel legs/ available in mahogany, walnut, maple, and palisander wood seat/ designed by Arne Jacobsen/ **retail:** $33.80/ **Richards Morgenthau, 225 Fifth Ave., New York 10, N. Y.**

5. Dining Group: #E4703 chair, #E4509 table/ wrought iron with brass tips/ natural cowhide leather backs with leather lacing/ table, 42" square/ designed by Maurizio Tempestini/ **retail:** $57, chair; $150, table with center planting well/ **John B. Salterini Co., Inc., 510 E. 72 St., New York, N. Y.**

6. Vanity Table, Bench, and Mirror: #2112 #2113, #107/ wrought iron with expanded metal shelves and sides, limed-oak Nevamar plastic top/ may also be used as a desk/ **retail:** $55, table; $10, bench; $15, mirror/ **T. Baumritter Co., Inc., 171 Madison Ave., New York, N. Y.**

2



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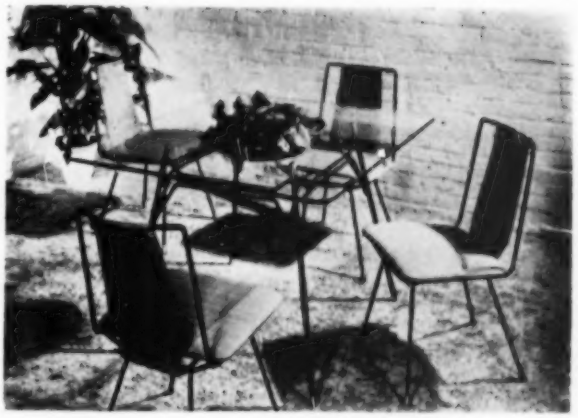


6

LOW COST CONSTRUCTION Quality Features

The Filler Machine Company, Bethayres, Pa., showing the office end of the plant. Completed in July 1952, the building's esthetic appeal is a direct result of simple materials expertly and economically handled. Roof is supported by lally columns on 14 ft. centers. Space between columns is filled by Lupton Commercial Projected Windows welded to columns. Overhanging roof and heat absorbing glass protect interior from excessive heat in summer.

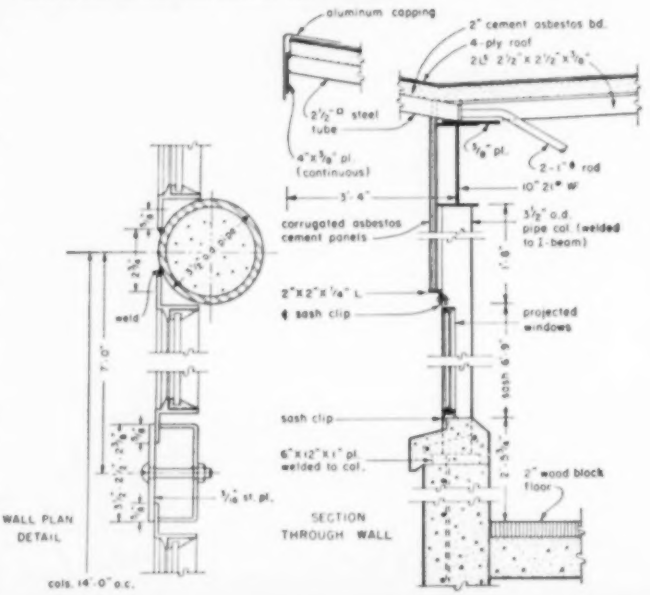
Just north of Philadelphia, on the New York Branch of the Reading Railroad, is one of the most interesting buildings that have contributed to the tremendous industrial expansion of the Delaware Valley.

Built for the Filler Machine Company at Bethayres, Pa., with Ralph Wesley Jones, Philadelphia, as Consulting Engineer, the plant features the utmost simplicity in construction without sacrifice of quality. The 13,300 square foot factory has a 147 ft. by 74 ft. shop. A semicircular 2,000 square foot office is located on the north end. Total cost was $82,000.00 at $6.15 per square foot, yet it has been mortgage appraised at $9.50 per square foot.

Exterior walls are formed by 3½ inch lally columns 14 feet on centers. These rise from a 2 foot high reinforced concrete wall topped by steel bed-plates. The lally columns are welded to the bed-plates and to the sidewall I-beams. Open-web joists, totaling 73 feet 4 inches, span the building and are supported at the center by 6 inch lally columns. This center row of columns offers the only floor obstruction in the entire building. The ceiling is the underside of 2 inch insulated roof slabs covered with built-up roofing.

The two Lupton Projected Steel Windows filling each of the 14 foot bays are tack-welded directly to the lally columns. A 3½ inch plate mullion joins the two windows at the center of the bay. Each window has two ventilators. Upper ventilator opens out, ventilator at the sill opens in. Ventilation is possible in any weather. Glazed with heat-absorbing glass, further sun and weather protection is afforded by a 40 inch roof overhang. The end result is a strikingly modern building with clean lines uncluttered by extraneous construction details.

If you too, are planning unusual construction let Lupton help you. See the complete line of steel and aluminum windows in Sweet's. There is a complete drafting and design staff ready to help you with your window problems.



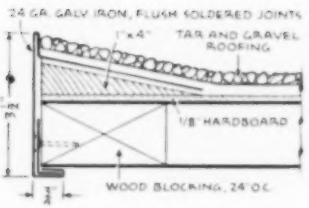
The Factory view at right shows the 14' bay formed by lally columns. The center mullion is a 3½" formed channel welded to the I-beam and sill plate. Lupton Steel Projected Windows are welded to the lally columns. center mullion provides for expansion and contraction. All glazing is translucent, pebbled, heat-absorbing glass.

Interior of the semicircular office located at the north end of the building. The second and third rows of window lights are clear glazed, the others have translucent, pebbled glass. Entrance to the building is by a sunken path as the grading has been brought right up to the window sills.

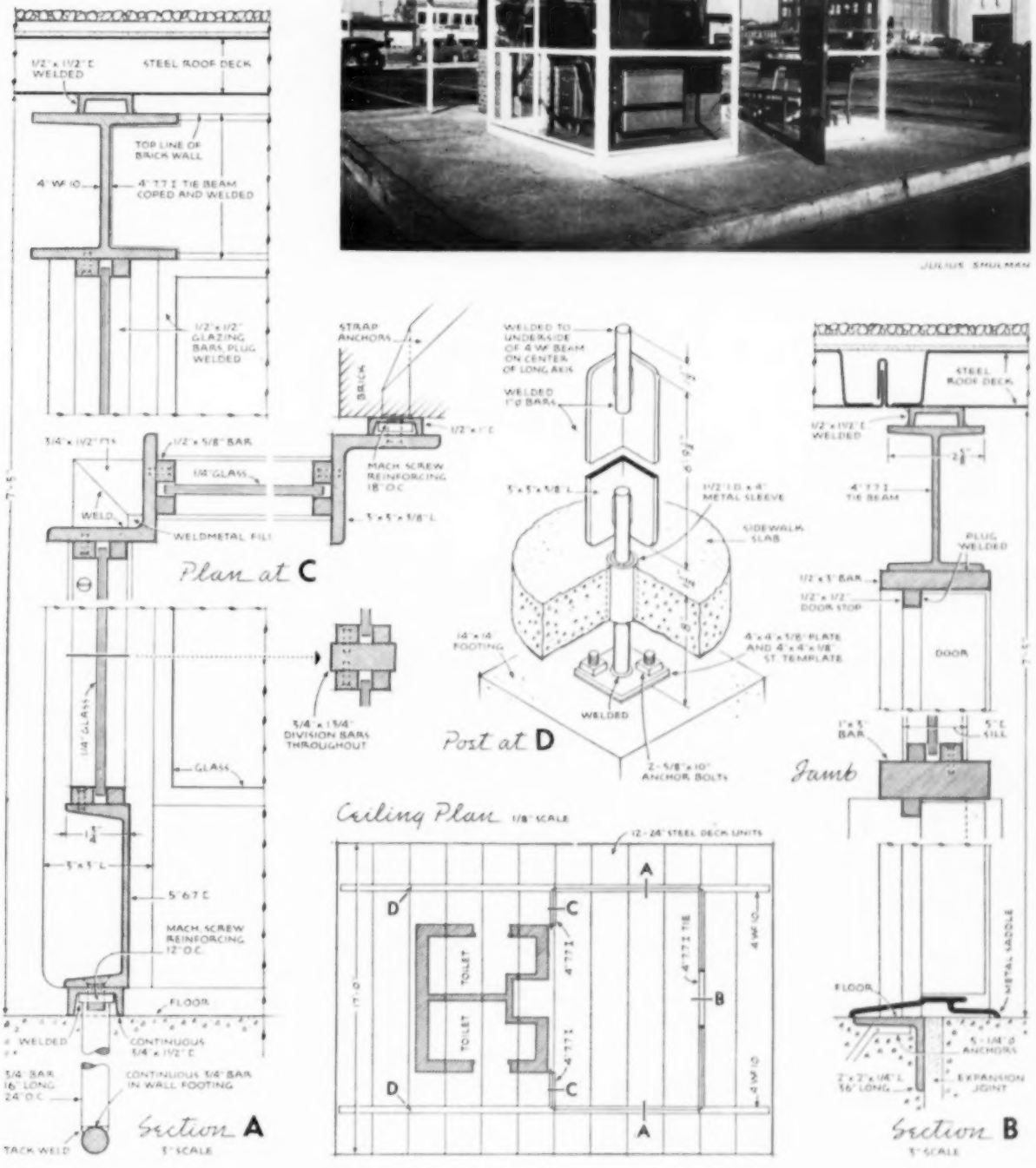
LUPTON
METAL WINDOWS

parking lot: office

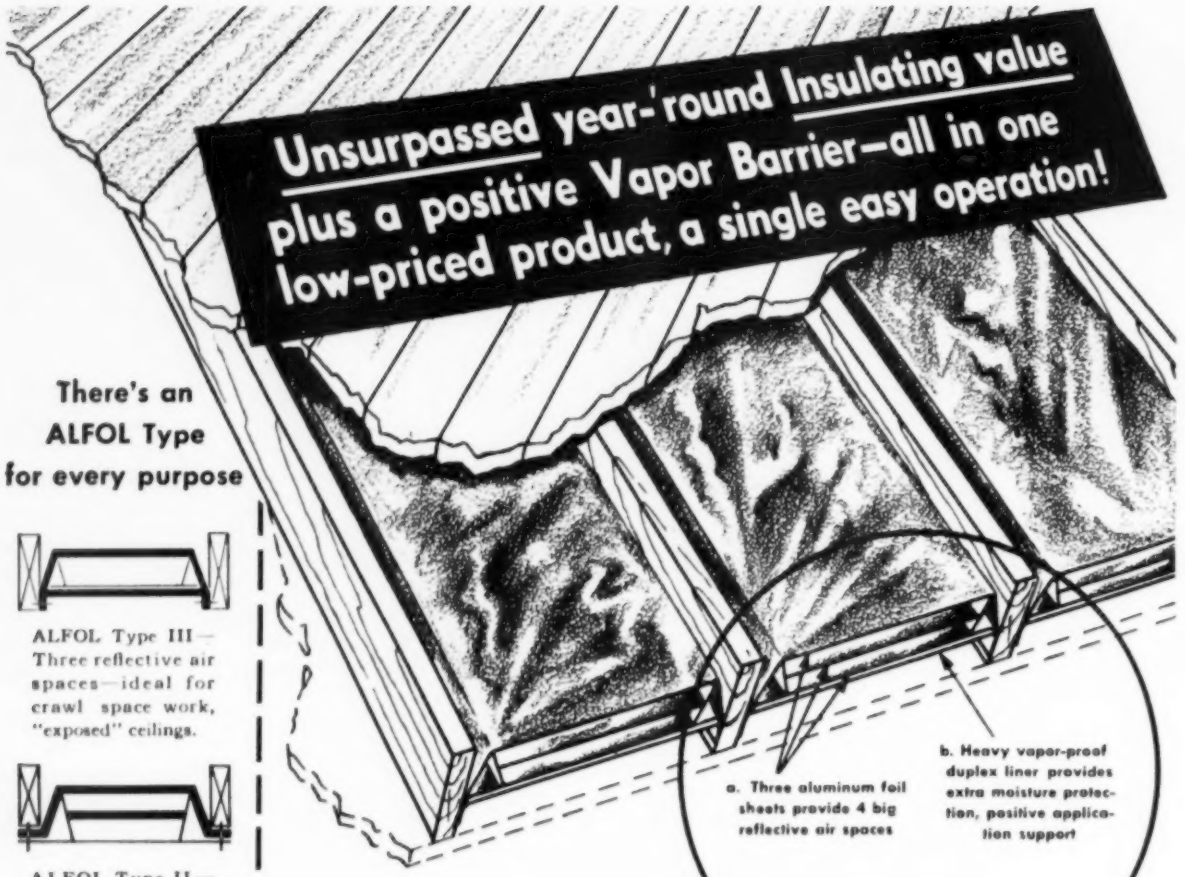
JULIUS SHULMAN



Cornice 3"SCALE



PARKING LOT, Oklahoma City, Okla.
Joseph N. Boaz, Architect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a. Three aluminum foil sheets provide 4 big reflective air spaces
b. Heavy vapor-proof duplex liner provides extra moisture protection, positive application support

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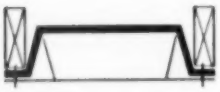

ALFOL Type I—Two reflective air spaces—Low cost efficiency, ideal for mild climate use.

ALFOL Type IA—Two reflective air spaces—specially designed for masonry construction.

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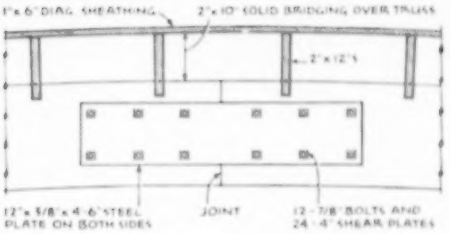
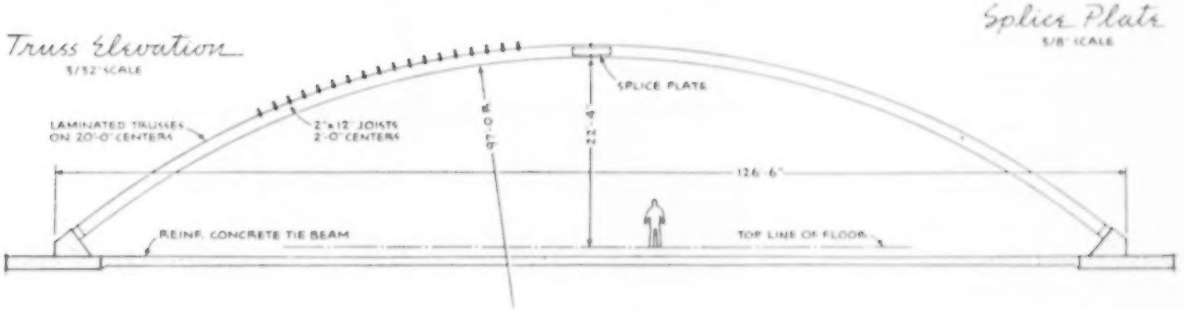
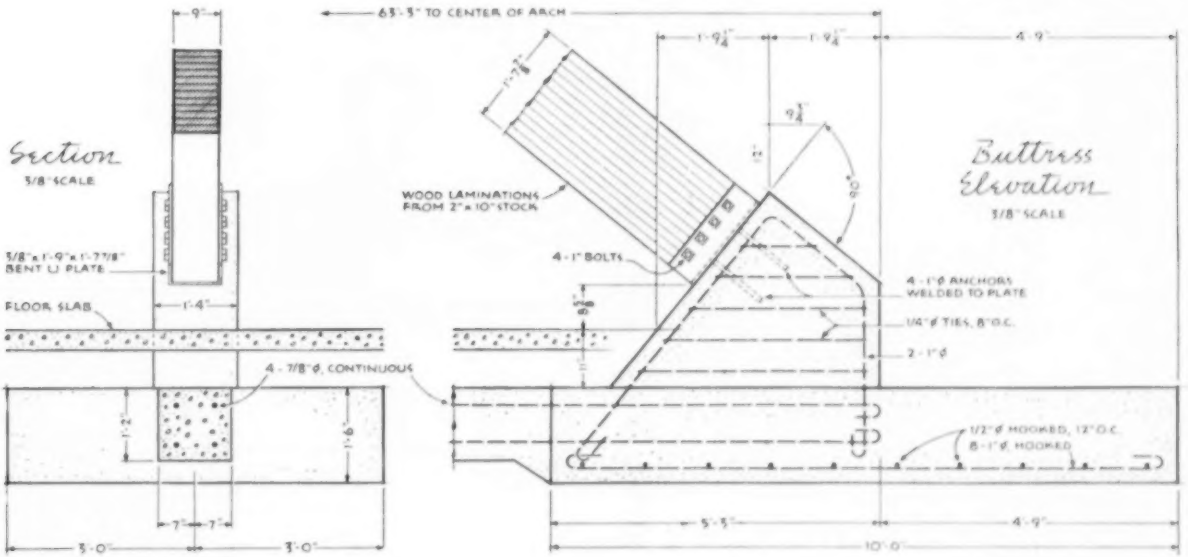
JULIUS SHULMAN PHOTOS


1"x6" DIAG. SHEATHING
2"x10" SOLID BRIDGING OVER TRUSS
2"x12"s
12"x 5/8"x 4'-6" STEEL PLATE ON BOTH SIDES
JOINT
12 - 7/8" BOLTS AND 24 - 4" SHEAR PLATES

Splice Plate
3/8" SCALE




Section
3/8" SCALE
5/8"x 1'-9"x 1'-7 7/8" BENT U PLATE
FLOOR SLAB
4 - 7/8" ø, CONTINUOUS
63'-3" TO CENTER OF ARCH
WOOD LAMINATIONS FROM 2"x 10" STOCK
4 - 1" BOLTS
4 - 1" ø ANCHORS WELDED TO PLATE
1/4" ø TIES, 8" O.C.
2 - 1" ø
1/2" ø HOOKED, 12" O.C.
8 - 1" ø, HOOKED
Buttress Elevation
3/8" SCALE

KING COLE SUPERMARKET, Whittier, Calif.
A. Quincy Jones, Architect

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Beaumont, Texas
Oak View School
High Point, N. C.
Yonkers Junior-Senior High
Yonkers, N. Y.
University of California (Physical Education Bldg.)
Riverside, Calif.
Evansdale Elementary
Evansdale, Iowa
Wilson & Ensien Schools
Modesto, Calif.
Morrisonville School Addition
Morrisonville, Ill.
Ojus Elementary School Addition
Dade County, Fla.
Forsyth Grade School
Forsyth, Ill.
Consolidated High, District 4
Knappa, Ore.
Nashua School Addition
Nashua, Iowa
St. Mary's School & Convent
Rhinelander, Wisc.
Pleasant Valley Township
Bettendorf, Iowa
Herbert Hoover School
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Glenwood Elementary
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Franklin Sherman School
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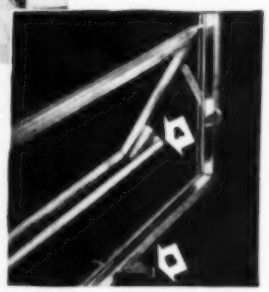
Over the years it's the least expensive window to use. No maintenance required. Reduces heating costs. Write for descriptive catalog.



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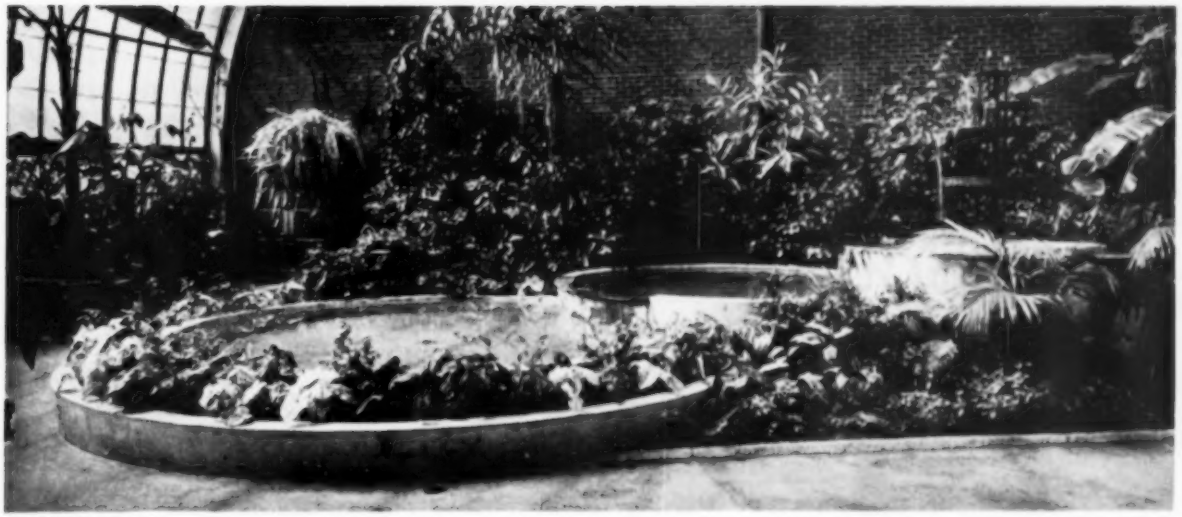
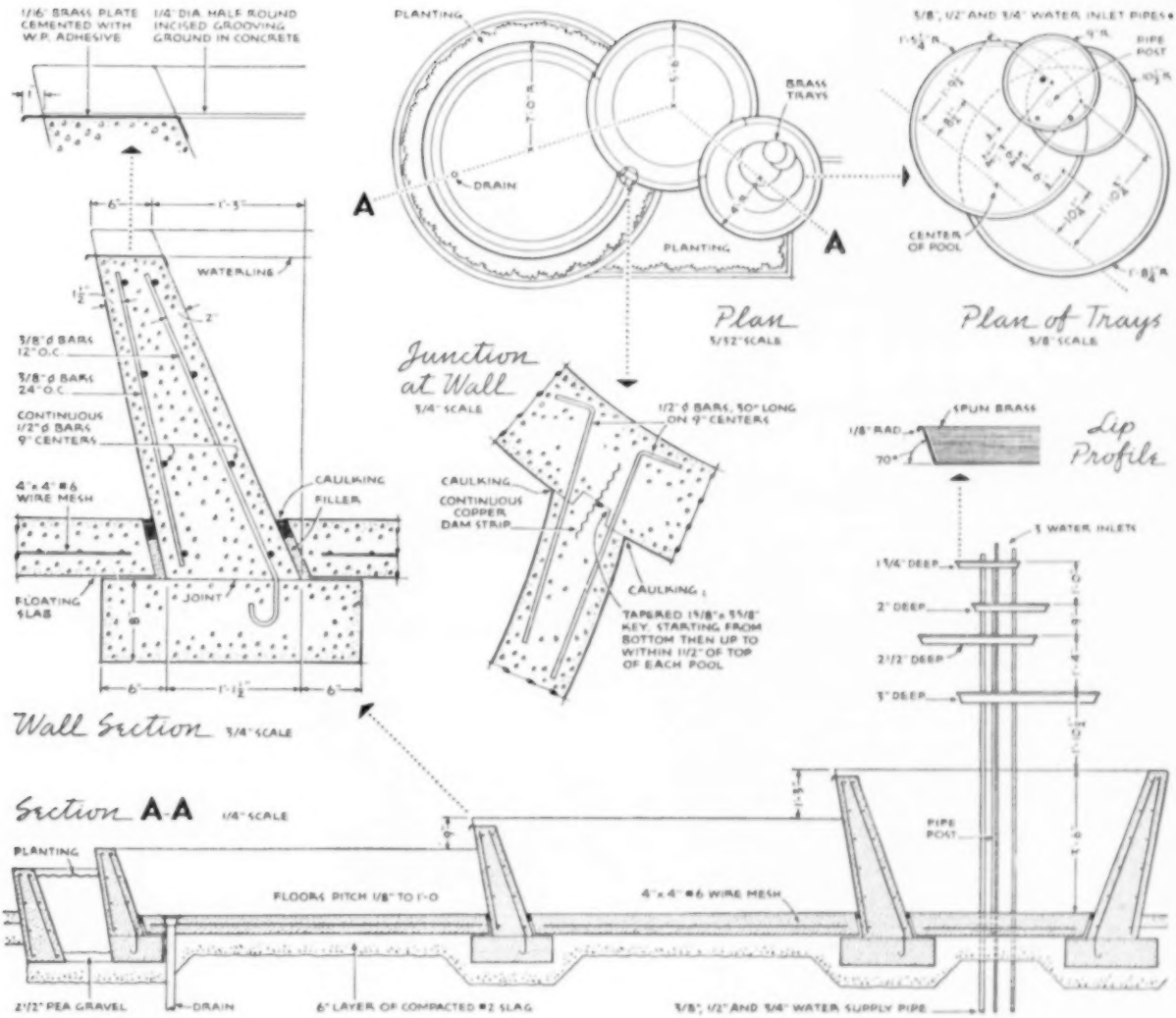
conservatory and aviary: water fountain



NEWMAN - SCHMIDT



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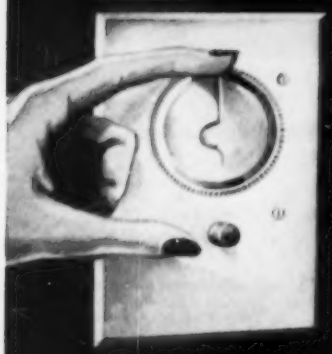

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it's the law

by Bernard Tomson

Editor's Note—Is the Architect running a grave risk when issuing Certificates of Payment without proper control and audit of the Contractor's disbursements? Tomson has raised in his column many important questions, some of which—notably the need for coordination of licensing statutes—are now being studied by the profession.

None, we feel, has been of graver import than the subject of the series of columns starting this month: the "supervision" of the Contractor by the Architect. Is the Architect assuming a dangerous, unrecognized responsibility? P/A agrees with Tomson that the Architect is: many Architects we have talked with agree.

A meeting of important men in the building field has been called in New York by P/A to discuss this problem. The discussion, with specific recommendations for revision of the present Contract Documents, will be reported in subsequent issues.

Supervision by Architect required.
Supervision of what?
Supervision of construction?
Supervision of the Contractor?
Or supervision of both?

What do I mean by "supervision of the Contractor?" I mean the Architect's control over and audit of those monies paid to the Contractor which the contract requires him to distribute: *i.e.* where in effect he is acting as a fiscal agent of the Owner. Among other things, this would require a proper audit to determine whether the Contractor's requisitions properly reflect requisitions of sub-contractors, material men, and the like, and that payments to the Contractor are disbursed in accordance with contractual obligations. For example, *Article 37* requires him to pay sub-contractors proportionately as he is paid. How many Architects, even on very large projects, actually "supervise the Contractor" as well as construction? The very language of the *General Terms and Conditions* indicates that the answer is: few, if any. The terms and conditions, themselves (*Article 24*), in considering the Contractor's application for payment, call for receipts or vouchers only "if required." The contractual provisions, of course, are silent as to any periodic audit.

In respect to the Architect's function as a "supervisor of construction," the *General Terms and Conditions* and the carefully written specifications on each project state quite explicitly the Architect's function. The attitude of the Architect, the Contractor, and even the bonding company, indicates quite clearly that this is the apparent primary function of the Architect in supervision.

But is "supervision of construction," alone, what the Owner expects and the *General Terms and Conditions* require? As to the Owner, the answer is an emphatic no! As to the *General Terms and Conditions*, the answer is again, no—but in muddied language.

I doubt whether the financial end of any operation in any other field, involving the large amounts of monies that are spent in construction, is as loosely run as the usual construction operation. If this is continued, the consequences could be disastrous, given any kind of general or even local economic recession or disturbance, temporary, or otherwise, affecting prices or materials. Even in the absence of any economic disturbance, the consequences could be equally unfortunate in individual situations.

•

Let me illustrate by an example that could be typical: The Contractor, instead of making payments to his sub-contractors, as required by *Article 37*, shades these amounts. As the job draws to a close he finds himself seriously in arrears to a number of subs. He feels secure because of the 10% retained by the Owner and hopes to stall the subs until the receipt of that amount. The Owner and the Architect apparently have felt secure because of the 10% retention fund.

As a practical matter, however, this is a sham, a snare, and a delusion. The 10% is intended to cover possible claims for defective work. The defective work can be so serious as to absorb that entire fund. In addition, there may be claims for inexcusable delay which may run into substantial sums, where time is of the essence. If the claims of the subs turn out to be so substantial that, when added to the Owner's claims for defective work, the 10% becomes grossly inadequate and the Contractor is unable to meet his payments, the Owner is in the position of paying far more for the job than the contract price. Reliance on the Contractor's bond may, for reasons not necessary to discuss here, also be illusory.

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I do not mean to imply here that Contractors are dishonest or that they cynically disregard their contractual obligations. When large amounts are expended, it is not only prudent but routine to require regular audits. The Owner and the Architect should feel that the Contractor engaged is honest, reliable, ethical, and financially responsible. Employes of banks and officers handling public funds are certainly so regarded, yet audits there are routine, expected, and are not considered insulting. A wise man once told me that it is unfair to put unnecessary temptation before an honest man. Routinely, in construction this is done because of a generic failure to require the Contractor to adhere rigidly to his contractual requirements as to disbursements of funds.

The problem, therefore, is extremely important, but may be very simply stated:

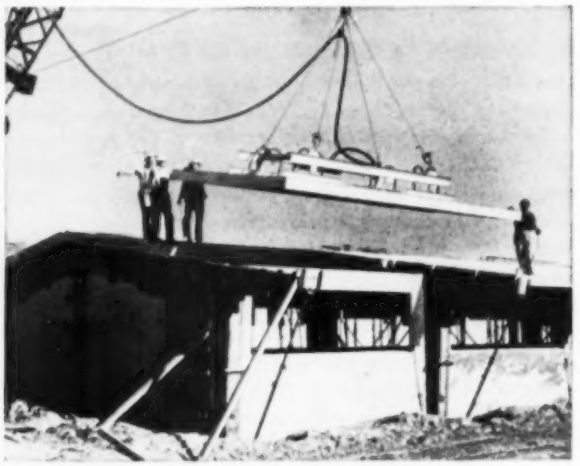
1. Should the contractor's books and records be audited periodically?
2. If so, who shall pay for or provide the necessary accounting services—the Architect, the Owner, or the bonding company?
3. How do the *General Terms and Conditions* now deal with these and related problems?
4. How should the *General Terms and Conditions* be amended so as to clarify the respective responsibilities of the Architect, the Contractor, and the Owner?

I have emphasized the importance of a periodic audit of the Contractor's books and records in order to provide the Owner and Architect with the security to which they are entitled. The cost of furnishing accounting and auditing services, as between Architect and Owner, should be borne by the Owner. It is not within the ordinary contemplation of Owner or Architect that such services be furnished by the Architect—and no compensation therefore is provided. It is in the interest of the Owner that he obtain the security which periodic audits would furnish him; therefore the expense and cost of such service are properly his. If there is a bonding company which has an interest in proper performance by the Contractor, then that bonding company should share in the expense of a periodic audit.

In subsequent columns, I will discuss the answers to questions "3" and "4." B.T.

General view of one of the completed barracks buildings.

Construction view showing wall panels tilted up and braced.



Precast concrete roof slab being lowered into place.

Speed and Economy of *TILT-UP CONSTRUCTION*

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Precast, tilt-up concrete construction is giving taxpayers more permanent structures at no extra cost in the Marine Corps Artillery Training Center, Twentynine Palms, Calif. With more than 1½ million sq. ft. of floor area, this is one of the biggest precast concrete construction jobs ever undertaken.

For economy the original appropriation contemplated a type of construction often used for temporary structures. However, cost studies disclosed that durable, sturdy, precast concrete buildings could be constructed for the same appropriation.

Precast, tilt-up concrete construction provided extra values for the same money because it lends itself to simplification of detail, many reuses of a few basic elements and employment of production line methods for fabrication and erection. It offers such additional advantages as firesafety, low maintenance cost, savings in construction time, use of economic materials and fabrication and construction methods equally adaptable to metropolitan centers or to relatively inaccessible areas.

These pluses apply not only to military projects but also to schools, hospitals, commercial and industrial buildings. Fast, economical, precast tilt-up concrete construction is equally adaptable to one story or multistory buildings.

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Neptune & Gregory, Pasadena, Calif. were architects and engineers for the Twentynine Palms Marine Corps Artillery Training Center. A joint-venture firm, Twaits—Morrison-Knudsen—Macco, was contractor.

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by Carl Feiss

out of school

"This year saw the opening of the new Houses of Parliament, concerning which Disraeli said in the Commons that the low standard of architecture in England was due to the fact that no architect had ever been shot, like Admiral Byng, pour encourager les autres, *a statement that cannot have sent the Queen into fits of laughter, because it was her duty to bestow a knighthood on the architect of the new building, Charles Barry."*

Hesketh Pearson: *Disraeli*

If I were an architectural publisher, which Heaven forbid, I would proscribe from my advertising pages any ad which omitted the name of the architect of any building reproduced in the ad, no matter how bad the building might be (and usually is). There ought to be some principle attached to the "art" of architectural advertising. If it isn't attached to the building itself or to the choice of layout, it ought to be to the idea that if a building is worth using in an ad the architect of the building is worth passing mention. Oh well, I suppose there are more important things to think about, but I do find the ad pages of our architectural periodicals a constant source of annoyance. I suppose it's the hot weather and the lack of sex appeal in the ads. Now if only advertising copywriters would really study *Esquire* or similar professional journals for their inspiration! After all we do have male and female connections in plumbing.

The above paragraph has nothing to do with this month's story. Eggs do. And teaspoons. I've always admired eggs and teaspoons. They seem to have been made for each other. Teaspoons and cantaloupe fit very well too—and teaspoons and avocados. The teaspoon, in fact, irrespective of the design of the handle, is just about as satisfactory a gadget for the purpose as man has created. There is something very soothing about turning the spoon around the interior of a five-minute egg, dislodging the white just inside the shell—and the feeling of the spoon in the mouth is just right—a totally satisfying experience, if the egg is fresh and the spoon is clean. Dr. Alexis Romanoff of Cornell, the great egg expert whose "Profile" appears in the June 20-27 issues of *The New Yorker,* is an enthusiast on that complex structure which is the egg shell—one of Dame Nature's great industrial designs. What is not mentioned in those articles is the egg shell's one serious design deficiency: it breaks too easily. I am sure that if we were to feed hens silicones for a season, it should be possible to develop eggs that would bounce like Silly Putty but would crack open with a clean break upon being deftly whacked by a table knife.

(Continued on page 150)

out of school

(Continued from page 149)

In recent columns I have been wandering into some of the byways of comprehensive architectural education. The wide scope of the universe of design, from the teaspoon to the design of planned regions or even nations, is a source of philosophical wonder to me. In a sense, the same analytical skills are involved and the same curiosity and the same ingenuities. As I have said many times before, Man need not be limited by scale or name of enterprise in his search for satisfactory solutions to the wide range of problems which face him. Eliel Saarinen developed the short bladed knife on which he held the patent for years, and it is my recollection that he worked out that design about the same time as he completed the metropolitan plan for the city of Helsinki. They were both excellent solutions to complex design problems.

Industrial design may be dependent upon or independent of the architecture of buildings. It may range in scale from the toggle switch to the cloverleaf of a superhighway. It combines engineering, the humanities, the expressions in the design of those gadgets which Man has made since he devised the first bone awl or chipped the first flint. Industrial design has been prostituted in innumerable ways, not so much by decoration, which may be the beautiful colored geometric patterns on Cretan or Mesa Verde clay pots. These do not mar the usefulness of the gadget. I am thinking of the streamlined refrigerators, the cumbersome false fronts of the modern automobile, the pretensions which falsify design rather than embellish it. We should know by this time that function does not always follow form. If this were true, all fish in the sea would be the same shape or all birds in the air would fly the same way. Nature herself has not yet made up her mind, in the slow and continuing process of evolution, as to what is efficient, what is beautiful, and what is final. Therefore those of us who believe in dogmatism should relax in humility every once in a while and remind ourselves that there may be more than one answer and more than one way to make things beautiful or satisfactory or just useful.

"Architecture is just a batch of big gadgets styled by self-propelled egoists who claim a special vision from on high," says the Professor of Architectural Psychology at the University of Theleme. I resent that statement, though I am having difficulty refuting it. The fact is that the gadgeteer-de-luxe has taken over the styling of both architecture and industrial art, and the professor above, having spent one year at the feet of a maestro in a state of enforced ego subjectivity, is permanently incapacitated as a designer. He unsublimates his ego with a vicious attack on his frustrations.

o

Architects should be able to depend on

(Continued on page 152)

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out of school

(Continued from page 150)

the industrial designer more than they do at the moment. Because of the fact that there seems to be an inadequate liaison between the two professions, the architect does spend too much time at the piddling details which he should leave to the experts. Think of the kitchen and bathroom details on which he wastes time and office money. And think of the benefit he could derive from the industrial designer if the latter would spend a little more time on such prehistoric items as the residential window. The automobile window, primitive as it may be, is a better bet for the money than anything the home owner can get through his architect or contractor. The window presents industrial design problems involving light, heat, ventilation, insect control, sound control, cleansing, glare control, view control, breakage and replacement, insulation, decoration, and a multitude of other factors which require the approach of the scientific humanist who works in the field of Man's tools—those gadgets which the anthropologists tell us are the first distinguishing factors in the difference between man and animals—ants and bees excepted.

All of this seems a far cry from formal education of technicians. What I've been doing here, gently, is trying to make a case for the relationship of industrial design to architecture without making long check lists which would bore all of us.

There are at present some 30 to 35 schools teaching industrial design in a wide range of ways. In a few instances, they are attached to architectural schools but in most cases—and I'm no authority on the subject—they are relatively free-wheeling of established curricula, although they may grant degrees in degree-granting institutions. I have done a little checking from only two sources and they may or may not be indicative of trends, norms, or other statistical averages. For our purpose here the mathematics of the situation is not important. Professor and Mrs. Antonin Heythum of the Department of Industrial Design in the School of Art, Syracuse University, have been asked to say a few words on the subject. Syracuse has conferred the Bachelor's degree in Industrial Design since 1946 and a Master of Industrial Design degree since 1952. I am also drawing on a fascinating article on the subject of Industrial Design education, "Pratt's Experiment in Design Education," by Professor Alexander Kostellow, Chairman of the Industrial Design Department at Pratt Institute, as published with many illustrations in the June 1953 *Interiors*.

•

The Heythums have this to say about styling and design education:

"A designer whose attitude to design tasks is confused, partly by misleading training in superficial styling, partly by an overdose of money mindedness, will see people as 'consumers' rather than as

(Continued on page 154)

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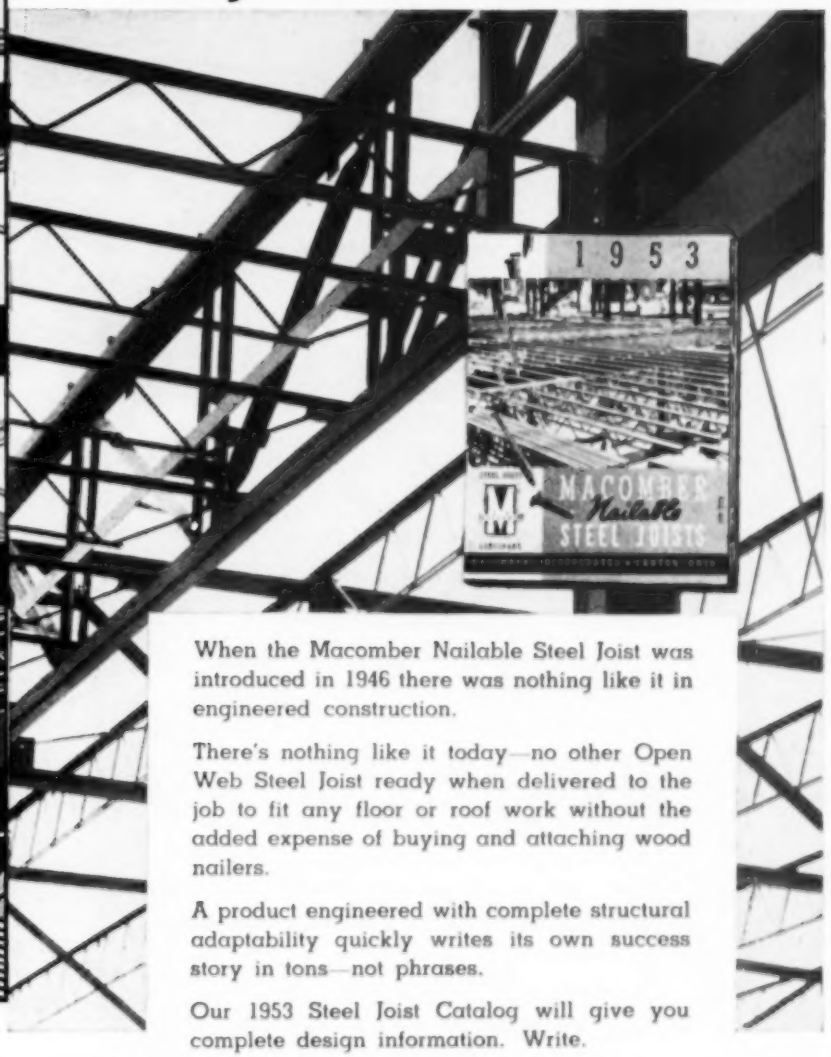

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(Continued from page 153)

human beings; nature to him is something to be improved upon; in tradition he sees merely changing styles, which he studies as a source of inspiration to revive and apply style elements of other periods in new designs. Technical and scientific progress, he explores in the limited terms of a means to achieve greater profits.

"Contemporary industrial stylists have been at times so fascinated with machines and with mechanized production, that they have shown greater willingness to adapt their designs to machines, and to the requirements of production and marketing, than to adapt them to human users. Following often some pseudo-scientific 'survey,' and adopting a superficially interpreted concept of 'machine art,' or of 'the style of the machine age,' they have gone to extremes, at times, in their complete disregard for natural laws and simple commonsense standards of utilitarian design.

"Styling is all too often not much more than doodling with form elements. The hand of the designer who spends more time at the drafting table than in the workshop and test laboratory, will easily give in to the temptation of doodling with his drafting equipment, and he will gladly use his doodling as inspiration for the design of some useful object."

•

Professor Kostellow says on the same subject:

"In analyzing the design program, we may observe that it is based to a great extent on exploratory experimentation. Industrial design is a new field touching upon every phase of our daily existence. There being no ready-made catechisms or syllogisms to follow, almost any statement in teaching industrial design tends to become a creative statement. Yet, by its very nature of being new, it demands a fundamental study of its premises and postulates. It cannot be taught simply as design for industry; that is, purely as a technical pattern necessary to benefit our social economy. Nor can it be taught only as a study of functional forms and the development in terms of the sensitivity of those forms. And certainly, teaching it as purely abstract creative expression would not take into account the multi-faceted nature of industrial design. Obviously, all these factors must be considered and combined. It is in the understanding of this combination that the teaching of industrial design can be comprehended and evaluated.

"Each design problem demands not only understanding of its functional aspects, knowledge of the nature of the materials, and the graphic of three-dimensional method of presentation, but also, an understanding of manufacturing processes and of industrial technology. But such an understanding, while it may make the student superficially valuable to industry, does not fully exploit his potential value if only technology and skills are involved. There must also be

(Continued on page 156)

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out of school

(Continued from page 154)

an intellectual perception of the various factors which condition designing for industry; factors of function, materials, price range, and public acceptance, which are necessarily interwoven with the study of technology in its application to industrial design."

•

But there are two diametrically opposed approaches to the practical problems which the students work on, in the design laboratories. The Heythums say:

"Professional Design within School Activities.

"Some design schools have developed co-operation with industry by sending students for an apprenticeship period to companies, design offices or shops, to acquire practical experience for one semester or so in between the regular curriculum.

"Sometimes independent professional research projects and actual product developments are undertaken in upper classes.

"Since schools should be nonprofit organizations, grants received for such projects should be accepted only with the understanding that results of work will become common property accessible to everyone interested in the development. It is obvious that it is not easy to find sufficiently altruistic industrial sponsors for such projects unless they are groups of manufacturers, for example associations in certain fields, who support a development of mutual interest, where disclosure of results will be of general benefit to heighten the standards and improve the mechanical and esthetic qualities of certain lines of products.

"Preferably it should not be industry, but commercially disinterested foundations with general humanitarian aims who should sponsor research and laboratory developments directed towards improvement of standards in the field of essential consumer goods and services."

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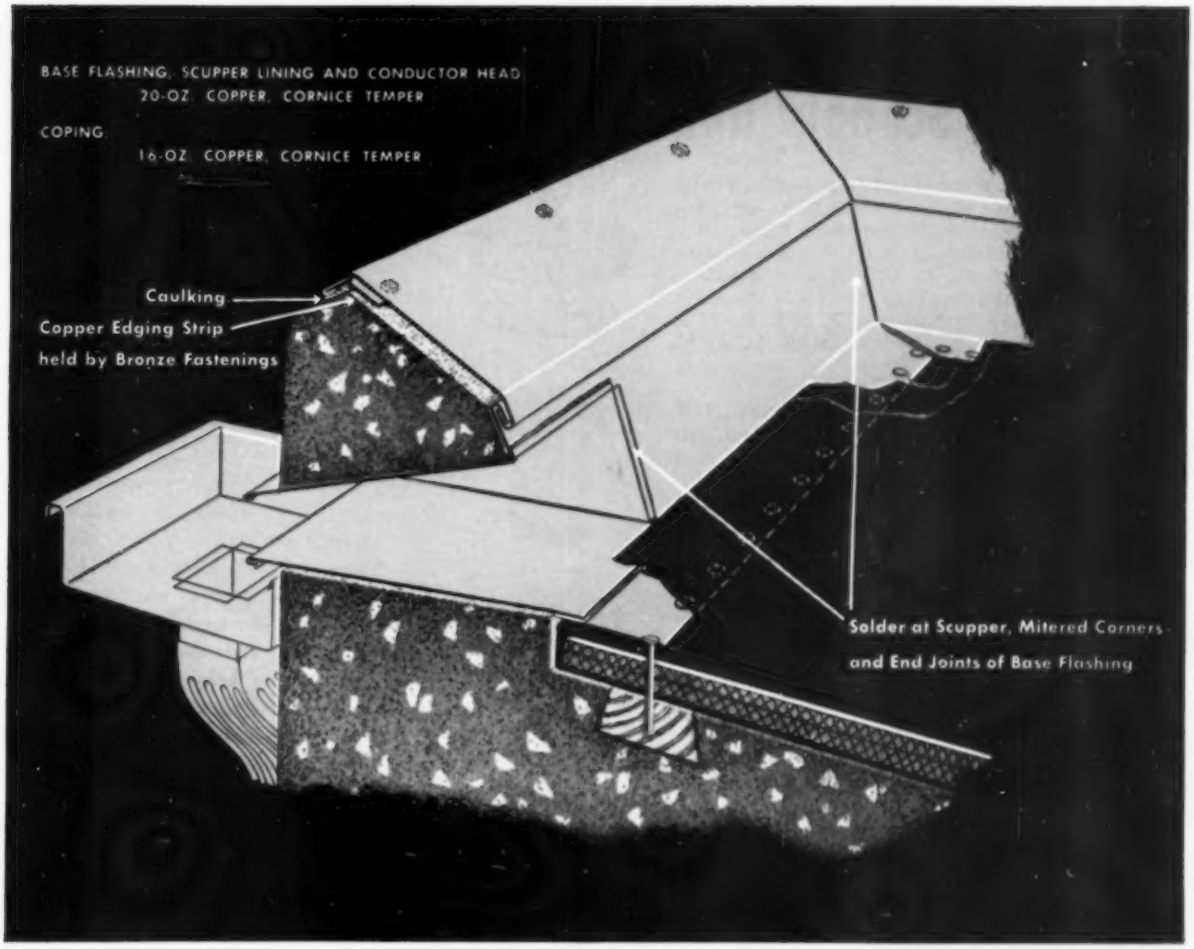
But Professor Kostellow, taking an opposite stand, explains that at Pratt:

"In the fourth year the student is pre-

(Continued on page 158)



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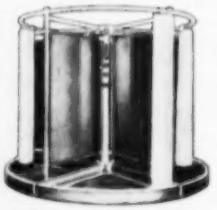

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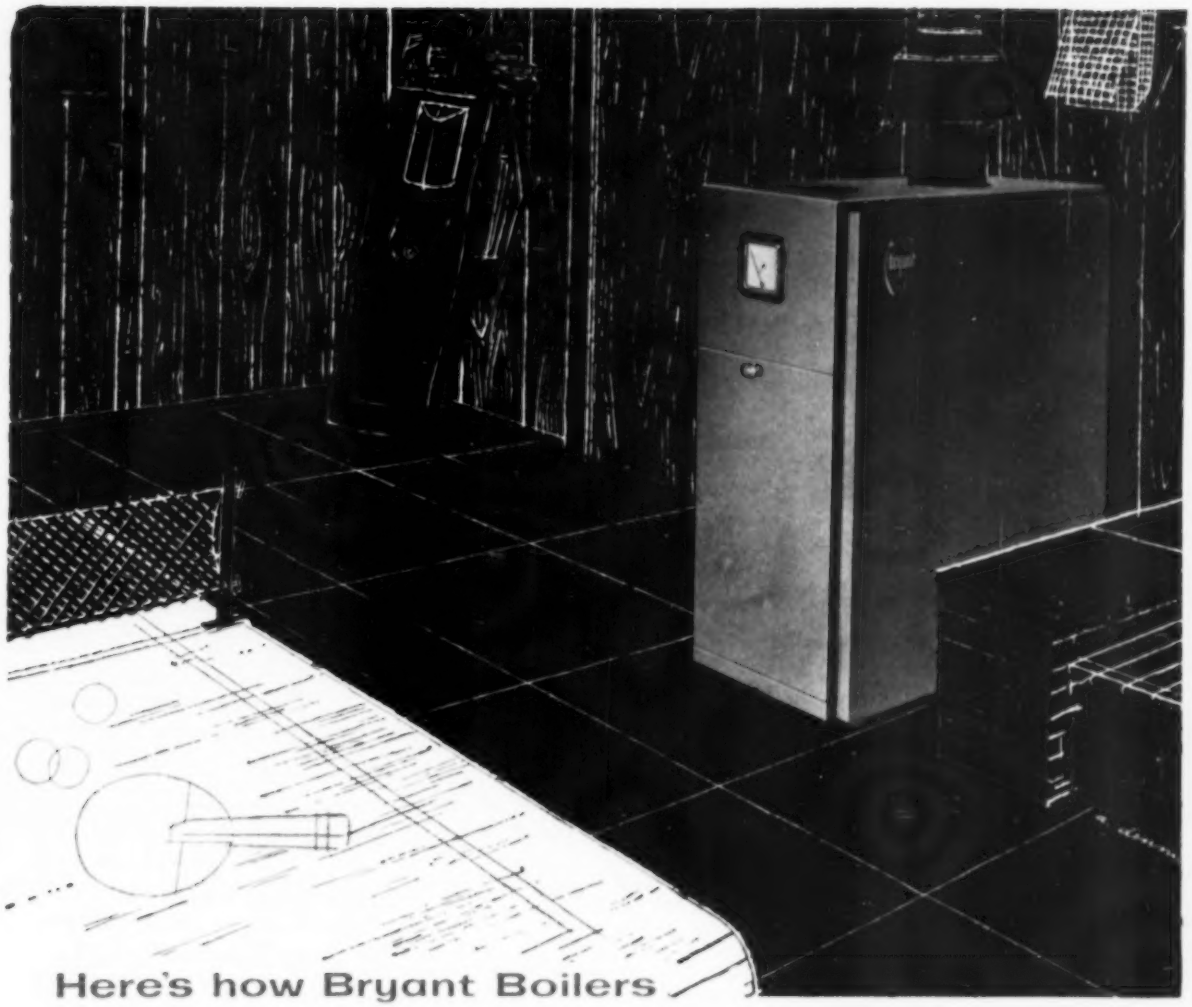
(Continued from page 156)

sented with a number of authentic problems in product designing. This is the year in which the members of the Experimental Design Laboratory play their most significant and important part in the education of the future designer. These member-companies assign to us definite projects in which they also participate. They send to us merchandising and design directors to acquaint the student with the various problems of design in merchandising, production, and distribution. These representatives of the companies participate in seminar discussions and act as advisors to the department and to the individual student. Each company supplies us with samples of its products and materials for design experimentation, and also sends production engineers to keep us informed of the latest technological developments in its particular industry. Most of the members maintain research assistants at the design laboratory.

"This assistantship affords a young designer the opportunity to engage in specialized research for any of the industries involved. The benefits which industry, Pratt Institute, and the students derive from this relationship are many and vital. By their participation in the design laboratory, commerce and industry are contributing directly to the education of the future designer. Their design and merchandising directors get to know the students intimately and are, consequently, able to choose personnel best suited to their needs. This aspect is further aided by the fact that the member-companies accept the design students in their junior and senior years as apprentice-designers in the factory studios during summer vacations. For its part the Industrial Design Department is enabled to acquire the kind of equipment in tools and machines, and to maintain a staff of technicians, it would be impossible to bring together with the limited funds at the Institute's disposal.

"What we consider of even greater importance is that we are, to a degree, instrumental in developing in industry an understanding of the significance of cre-

(Continued on page 160)



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(Continued from page 158)

ative design, and of the place of the designer in the scheme of things."

•

Judging from photographs of student work—a not-too-satisfactory method—I would say that at both Pratt and Syracuse, competent thinkers and designers are being trained. But neither the Heythums nor Professor Kostellow mention the architect except in passing. I would hope to find, if I were to rove further in the subject, a closer integration of industrial art and architecture than is evident in these two samples, good as they apparently are. It is true that many items studied in the field of Industrial Design are nonarchitectural—are as independent as a chemical retort or an adding machine—but the greatest number of subjects: kitchen equipment, appliances, furniture, lighting fixtures, door knobs, and all the rest (whether of metal, plastic, glass, or extruded chewing gum) attach to architecture, fill in architectural space, or otherwise impinge on architecture.

Norman Bel Geddes, Raymond Loewy, and Charles Eames are among the few Industrial Designers well known to the architectural profession. But I do not get the impression that as yet the professions at large really know each other. Take a look at the advertisements in the June issue of Interiors and then look through them in your favorite architectural periodical. These are different worlds!

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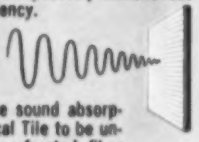

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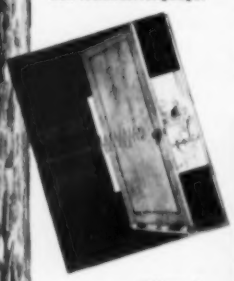

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TV STATIONS
illustrations

Cover

WCAU, Philadelphia, Pa.—photo: *William M. Rittase.*

Looking up 1057' antenna tower—photo: *WBEN-TV, Buffalo, N. Y.*

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TV production—sketch: *Dr. Walter J. Duschinsky.*

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Pick-up, control, and transmission—sketches: *Dr. Walter J. Duschinsky.*
Movable magic lantern—lithograph: *Granier, from The Bettman Archive.*

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The "correspondent of the epoch" and an early version of television, (1882)—lithographs: *Robida, from The Bettman Archive.*
Thomas Edison's "Black Maria," (1891)—photo: *Underwood & Underwood.*

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The eye, stereopticon (1861), Kircher's magic lantern in projector room (1640), and the 18th Century theater in the Court of Saxony—from: *The Bettman Archive.*

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The ear, Kircher's sketch of the Horn of Alexander, recording an opera into phonograph (1878), and Thomas Edison's phonographs—from: *The Bettman Archive.*

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CBS "Television City," Hollywood, Calif.—photo: *Ezra Stoller.*

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Live-talent studio and studio sightlines direction—sketches: *Dr. Walter J. Duschinsky.*

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Studio production—photo: *ABC-TV, New York, N. Y.*
Remote production—photo: *courtesy of Dr. Walter J. Duschinsky.*
Film or kinescope production, KPIX, San Francisco, Calif.—photo: *Cal-Pictures.*

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WCAU, Philadelphia, Pa.—photo: *William M. Rittase.*

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Shadowgraph and population distribution map—from: *RCA Broadcast News.*

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Studio-transmitter-antenna relationships — sketches: *Dr. Walter J. Duschinsky.*

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Microwave relay station—photo: *United Press.*
Airview of station atop Mt. Wilson, Calif.—photo: *Ewing Galloway.*
Basic TV station—sketches: *Dr. Walter J. Duschinsky.*

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Circular TV station—sketch: *Dr. Walter J. Duschinsky.*

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WCAU's Studio One, Philadelphia, Pa.—drawings: *RCA Broadcast News.*
Typical requirements of a one-studio TV station—sketch: *Dr. Walter J. Duschinsky.*

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TV station—photo: *WWJ, Detroit, Mich.*

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Record-reference library, KPIX, San Francisco, Calif.—photo: *Cal-Pictures.*

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WTVJ's Studio "A," Miami, Fla.—photo: *Reela Films.*
Live-talent production—photo: *ABC-TV, New York, N. Y.*

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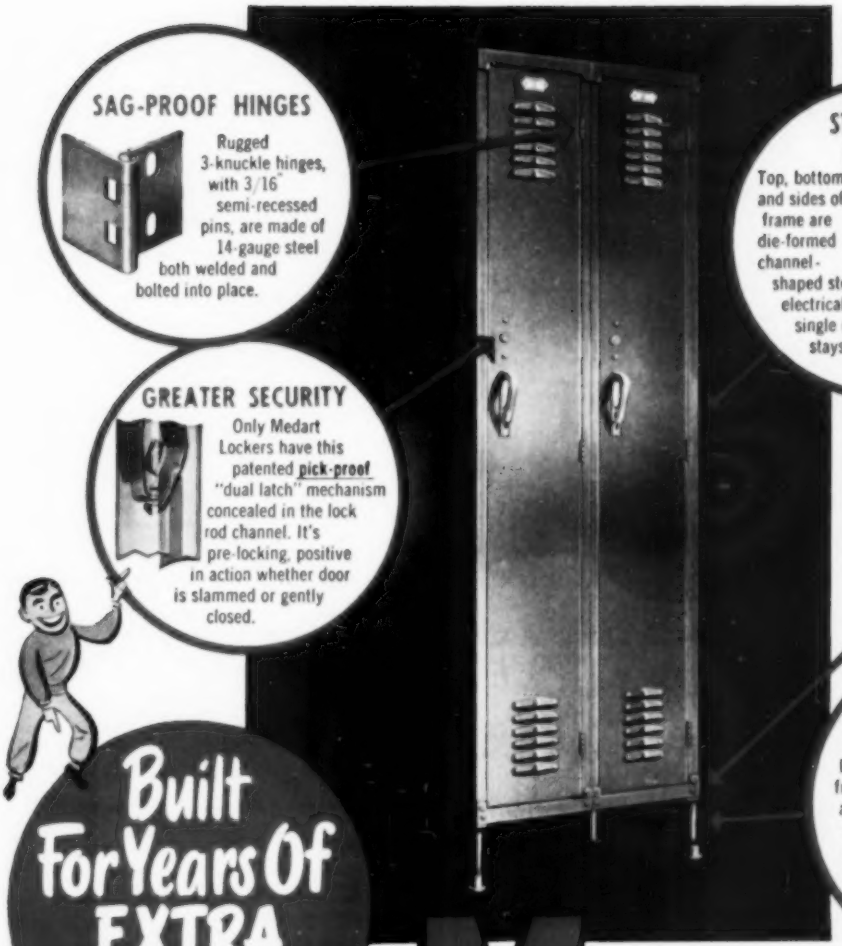

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- WRIGHT-ON-TOP Compression Cove Base
- WRIGHT VINYL TILE

TV STATIONS
illustrations

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Applause—lithograph: Daumier, from The Bettman Archive.
New NBC-TV studios, Burbank, Calif.—photo: Julius Shulman.

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Studio control room, KPIX, San Francisco, Calif. —photo: Cal-Pictures.
Control-room sightlines and transmitter console placement—sketches: Dr. Walter J. Duschinsky.

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Decentralized, centralized operations, and master control room—sketches: Dr. Walter J. Duschinsky.

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Locations of connection points for 998' guyed tower—drawing: courtesy of Dr. Walter J. Duschinsky.
Triangular guyed tower—photo: WBEN-TV, Buffalo, N. Y.

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Microwave relay equipment—photo: WTAR-TV, Norfolk, Va.
Self-supporting tower, Empire State Bldg.—photo: United Press.
Microwave relay station—photo: United Press.

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Television studio lighting equipment—photos: Century Lighting, Inc.

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WTVJ Studio "A," Miami, Fla.—photo: Reela Films, Inc.
Television studio lighting equipment—photos: Kliegl Bros., Universal Electric Stage Lighting Co., Inc.

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Live-talent studio—photo: WBAL-TV, Baltimore, Md.

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Film camera and projector—photo: RCA Victor Div., Radio Corporation of America.
Remote control-operated camera—photo: General Precision Laboratory, Inc.

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Microphone boom—photo: Century Lighting, Inc.
Announcer's console—photo: courtesy of Dr. Walter J. Duschinsky.
Switching unit of video-control equipment—photo: Radio Corporation of America.

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Basic control facilities for interview studio—photo: Radio Corporation of America.
Custom program console—photo: Allen B. Du Mont Laboratories, Inc.
Mirror-type producer's console—photo: courtesy of Dr. Walter J. Duschinsky.

notices

new practices, partnership

GEORGE W. REED, Builder, announces the opening of a new office at 400-16 St., Sacramento 14, Calif.

NISSO T. ALADJEM, Structural and Architectural Engineer, announces the opening of offices at 102 Mt. Auburn St., Harvard Sq., Cambridge, Mass.

R. DANIEL HART announces a partnership with HUGH J. LEITCH under the firm name of R. DANIEL HART & HUGH J. LEITCH, Architects; 614 Brent Annex, Pensacola, Fla.

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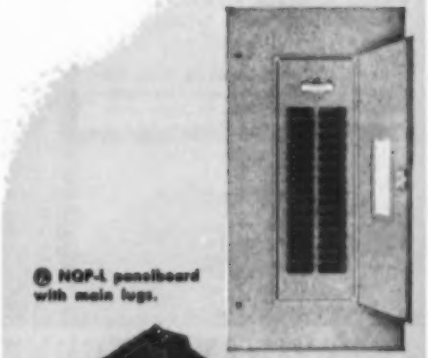

Ⓕ NQP-L panelboard with main lugs.

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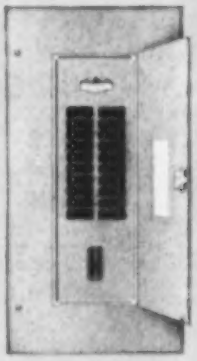

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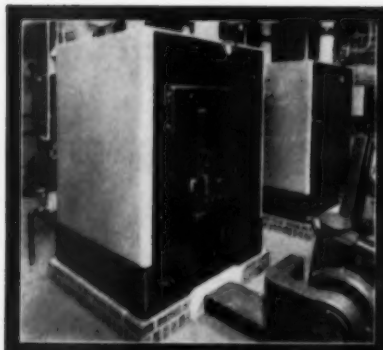

Typical maintenance building with office space, storage rooms, tool shop, locker room, ambulance garage and maintenance area.

NATIONAL Boiler (oil-fired) installed in Turnpike Restaurant Building.

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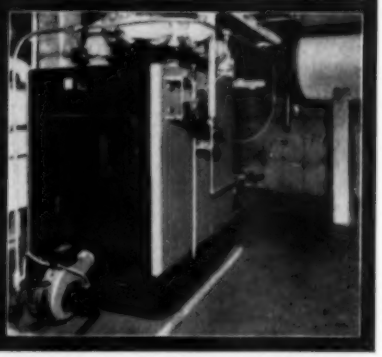

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Heating Contractors: W. L. Ramsey, Harrisburg, Pa.; J. J. Betke, Beaver Falls, Pa.; John Galbreath, Pittsburgh, Pa.

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p/a reviews

books received

The Future of Cities and Urban Redevelopment. Edited by Coleman Woodbury. The University of Chicago Press, 5750 Ellis Ave., Chicago 37, Ill., 1953. 764 pp., $9

Urban Redevelopment: Problems and Practices. Edited by Coleman Woodbury. The University of Chicago Press, 5750 Ellis Ave., Chicago 37, Ill., 1953. 525 pp., $7.50

The City of Man. Christopher Tunnard. Charles Scribner's Sons., 597 Fifth Avenue, New York 17, N.Y., 1953. 424 pp., illus., $8.50

Architects' Detail Sheets. Edited by Edward D. Mills. Iliffe & Sons Ltd., Dorset House, Stamford St., London, S. E. 1, England. Distributed by The British Book Centre, Inc., 122 E. 55 St., New York 22, N. Y., 228 pp., illus., $5.50

New Design in Exhibitions. Richard P. Lohse. Museum Books, Inc., 48 E. 43 St., New York 17, N. Y., 1953. 260 pp., illus., $13.50

symbolism, structure, and sophistry

European Architecture in the Twentieth Century 1924-1933. Vol. II. *Arnold Whittick. Crosby Lockwood & Son, Ltd., 39 Thurloe Street, S. W. 7, London, England, 1953. 271 pp., illus., 42s.*

"Architecture is building which has some degree of beauty . . . building which has esthetic interest." By prefacing his discussion with a definition of that most controversial term, Arnold Whittick introduces the second volume of a trilogy on European architecture of the 20th Century.

From 1924 to 1933 were years of relative political freedom and widening economic activity. As a postwar period, planning emphasized an absence of display and greater social consciousness. Architectural forms were changing. Diverse techniques and an emphasis upon standardization, exhibited in the Bauhaus and the 1927 Stuttgart Exhibition were two familiar high points which Whittick documents fully.

Public buildings and those of a cere-

(Continued on page 168)

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reviews

(Continued from page 166)

monial nature tend to adhere strongly to tradition; those designed as solutions to contemporary problems, though, are more likely to become the architectural vanguard. Whittick's concerned with the period hinges directly on this point. In saying that the years from 1924 to 1933 are transitional, he points to the somewhat obscure Holzmeister church at Hamburg-Blankenese as transformed Romanesque and to a convent chapel at Tegelort as neo-Gothic. The movement toward simplification was one of removing trappings and stripping down ornament. At best, Whittick considers it only an apparent simplification for "Ornament," he feels, "is justified if it serves an esthetic purpose . . . the architect may add nonfunctional forms if they grow out of the subject."

The main trends of European architectural growth are traced from the late 18th Century in terms of their esthetic social and technical significance. The book is overtly organized according to building types, but the reader will find supplementary chapters on symbolism, structure, and sophistry. Whittick is an enthusiastic bibliophile. Because of this, there are scores of excellent examples describing a wide range of thought and expression. Theories as divergent as geometric determinism and functionalism are viewed as strongly contributing factors.

As an historical reference, it will be valuable to the lay reader in tracing and understanding contemporary architecture. The architect should find it stimulating in documenting a phase now recognized as critically transitional.

R. F.

force of credit aids

The Role of Federal Credit Aids in Residential Construction. *Leo Grebler. National Bureau of Economic Research, Inc., 1819 Broadway, New York 23, N. Y., 1953. 77 pp., illus., $1*

Approximately 40 percent of the 9.5 million dwelling units constructed in the United States from 1935 through 1951 were financed with Federal credit aid, ac-

(Continued on page 170)

biggest hotel built anywhere in 20 years

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reviews

(Continued from page 168)

cording to Professor Grebler in this preliminary report on a joint study by the Institute for Urban Land Use and Housing Studies, Columbia University, and the National Bureau of Economic Research, Inc. The report is part of a broader study of trends and prospects in capital formation and financing in residential real estate—a full report will be published later. Emphasis is placed upon the effects of the FHA and VA programs on residential construction and the importance of Federal programs in mortgage finance. A short discussion of the future of Federal credit aids concludes the report. The National Bureau's research project on long-term trends in capital formation and financing in the United States, of which this study is a part, was begun in 1950 and has been assisted by a grant from the Life Insurance Association of America.

B.L.

the house you want

Practical Houses for Contemporary Living. *Jean and Don Graf. F. W. Dodge Corporation, 119 West 40th St., New York 18, N. Y., 1953. 175 pp., illus., $6.95*

Personal needs and whims of families; budgets that, even with the affluent, have firm limitations; particular and frequently baffling sites; the very human admixture of good sense and sentiment; the problem of regional propriety; these and many more factors add up to make residential design a field of practice with infinite variety, demanding extreme ingenuity, almost a magician's dexterity. Hence, books about houses—at least, when they document work of leading residential architects—are always rewarding, offering fresh solutions to familiar problems, clever devices for saving time or space or making one space do the work of two, new dimensions for living that good design produces.

The book under discussion is no exception. Compiled by wife-and-husband authors, both of whom have had considerable experience in writing about houses, the book is organized around groups of houses that share some common denominator—houses of varying size;

(Continued on page 172)

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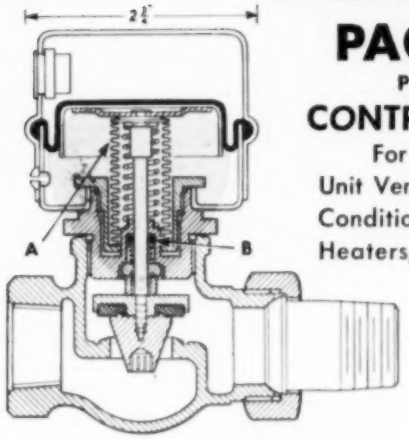

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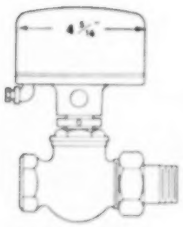
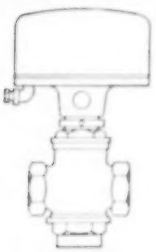
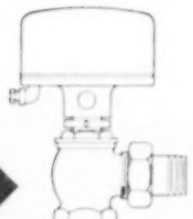
For utmost dependability and lowest cost maintenance specify control by Powers **PACKLESS** Valves.

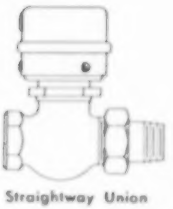


Straightway Union
3-Way Screwed Ends

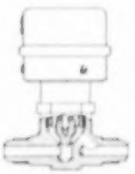




Angle Union

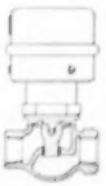


Straightway Union

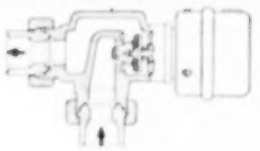


Flared Ends

Angle Union
Screwed Ends



Below: Reverse Flow Double Union



(62)

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reviews

(Continued from page 170)

houses wherein special consideration was given to the separate needs of adults and children; houses designed for odd sites; and houses that were worked out to meet the requirements of highly individual programs.

The introduction gives consumer-readers the perennially timely warning that one's desires will have to be tempered to fit the budget and assures the reader that the architect—"a kind of Renaissance man, partly engineer, artist, expediter, psychoanalyst, and businessman"—is the one best equipped to give realization to dreams of home. The design process involved is rather happily likened to "playing tug-of-war with an octopus."

The houses presented naturally vary in excellence, but, in this reviewer's opinion, almost all merit careful study. The design message, though not labored in words, clearly argues for the contemporary approach. In the title of the book, the authors emphasize, stress should go on the word "practical." For no house was included that did not meet the test of owner-satisfaction. C.A.S.

minarets, milestones, and modules

Architecture Through The Ages. *Talbot Hamlin. G. P. Putnam's Sons, 210 Madison Ave., New York, N. Y., 1953. 684 pp., illus., $10*

"Modern architecture as of the mid-20th Century is not a style. It is rather, perhaps, a general constellation of attitudes towards structure and use and materials." Talbot Hamlin's significant premise characterizes the newly revised edition of what has proven to be a near-classic in architectural history. The original qualities of the book are unchanged. The text annotating periods of history is fully intact, and photographs have been regrouped to make an even more forceful and learned study for both layman and savant.

Those unfamiliar with *Architecture Through The Ages* will find this an historical documentary which reads engagingly. Professor Hamlin's treatment of history, though at times adjec-

(Continued on page 174)

PRODUCT NEWS from AMERICAN-Standard

A review of products in the news and important features worth remembering

HEATRIM PANELS. Specifically designed for forced circulation hot water heating, these baseboard heating panels provide convected warmth throughout each room. The panels take the place of regular wood baseboards, allow use of virtually all the floor area. Panels can be installed free standing or recessed . . . are ideal for use under picture windows.

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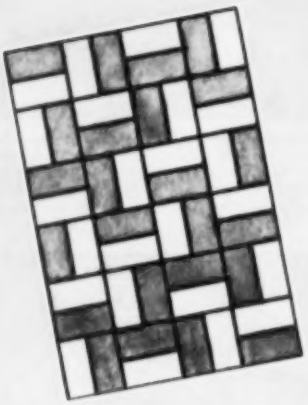

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reviews

(Continued from page 178)

tival and romantic is a running commentary of cause and event. It is a diverse and illustrative account of movements and ideas which crystallize architural periods and those which force them into obscurity. In his three-part role of architect, critic, and teacher, he sees planning, materials, and structure as the stepping stones for form and expression . . . but always with the individual as the focal point.

Styles and categories, however, are to the historian what rhetoric is to the author. The delight of "showing influences," in "grouping factors," and in "seeking the characteristics of . . ." too often become pedantic, limiting, and pompous. Professor Hamlin neither waxes eloquent at the drop of a column capital nor is sweeping in his generalizations. He measures his words as carefully as his modules. At one point he sketches the five camps into which contemporary architects seem to have drawn themselves. At another he cautions predicting future developments. But while he guards against the too-fundamental analysis, there is always room for the divergent opinion and the unorthodox motivation.

Neither the sins of error nor omission are committed, but references to *De Stijl*, Mondrian, Nowicki, and Niemeyer are casual at best. More striking, the effect of furniture design and handcraft movements, new materials and structural systems—plastics, light metals, stressed skins, and space frames—seem wholly forgotten. The pages on the "International School," a term falling rapidly into disuse, is still an enlarged study. That once-concerted movement has long been transformed into more individual and regional interpretations. It seems rather that the "International School," fascinated by engineering and science, and the machine-for-living stylization, has long since been eclipsed.

Professor Hamlin is an enthusiastic scholar in his search for fine architecture. His nice criticism of historic milestones makes this far more than documentation. It extends the bounds

(Continued on page 179)

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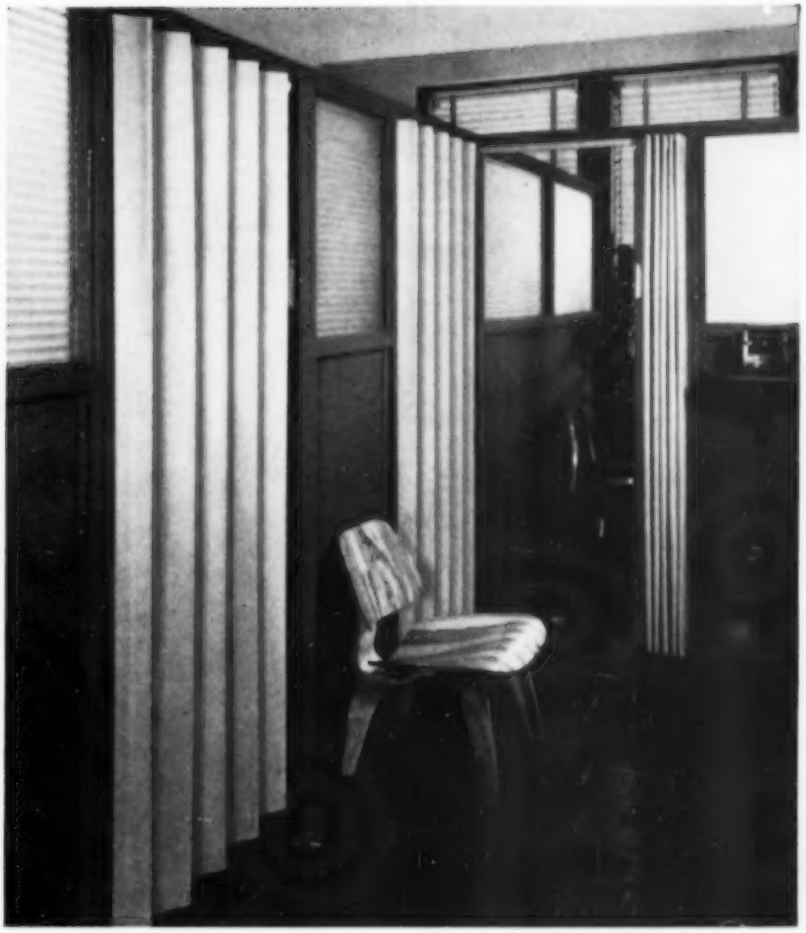

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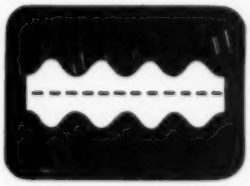

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reviews

(Continued from page 174)

and brings up to date the familiar, conflicting, and obscure ideas. It is an appeal for an architecture which is both human and expressive; one in terms of dignity and humility. R. F.

writing specifications

Specifications. *H. Griffith Edwards. D. Van Nostrand Co., Inc., 250 Fourth Ave., New York 3, N. Y., 1953. 311 pp., illus., $5*

Intended as a basic text in good specification writing for students and inexperienced architects, this book deals, first of all, with the assembly and arrangement of facts including the good and bad points in the selection of words and phrases and the logic behind the grouping and arrangement of sentences, paragraphs, and sections. It also provides enough technical information to illustrate the entire procedure of specification writing. While Part I deals with these general aspects of specification writing, Part II is concerned with conditions and specific trades as they are related to the writing of specifications for nonfireproof types of construction. Since this field is so broad, the latter section is devoted to a simple nonfireproof structure but the fundamental principles presented are applicable to larger fireproof and semifireproof types of construction as well as to specialized types of buildings where more detailed specifications are required. B.L.

how houses will look

Architectural Photography of Houses—How to Take Good Pictures of Exteriors and Interiors. *Robert C. Cleveland. F. W. Dodge Corporation, 119 West 40th St., New York 18, N. Y., 1953. 168 pp., 325 illus., $7.50*

Written by one of the West Coast's well-known architectural photographers, this book (the first on the subject, as far as this reviewer knows) should interest not only other photographers, but architects, interior designers, landscape architects, and magazine editors—all, in short, who are concerned with the interpretation of architecture on the printed page. To

(Continued on page 180)

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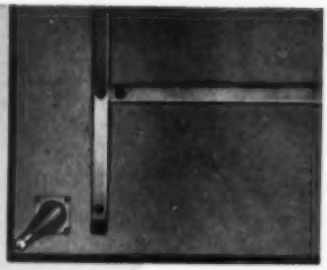

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reviews

(Continued from page 179)

keep the discussion within bounds, the book deals solely with residential photography. However, many of the principles would apply to buildings of any type.

The volume does not propose to teach anyone how to be a photographer (there is no data on lenses, the mechanics of the camera, dark-room procedures, etc.). It could, though, be of immeasurable help to the trained photographer who has not yet mastered his specialty or to the commercial photographer who has not done work in the architectural field. And it offers a great many practical suggestions to the architect about what is involved in obtaining a sensible group of interpretive pictures that will convey to the reader the design intent of his work. Thus, architects who are working with photographers will have a much better knowledge of how to supervise the picture-taking. And in areas where there is no trained architectural photographer, the book should prove to be of great benefit, not alone to the architect, but to the editor who will later consider his work for publication. G.A.S.

notice

awards, scholarships

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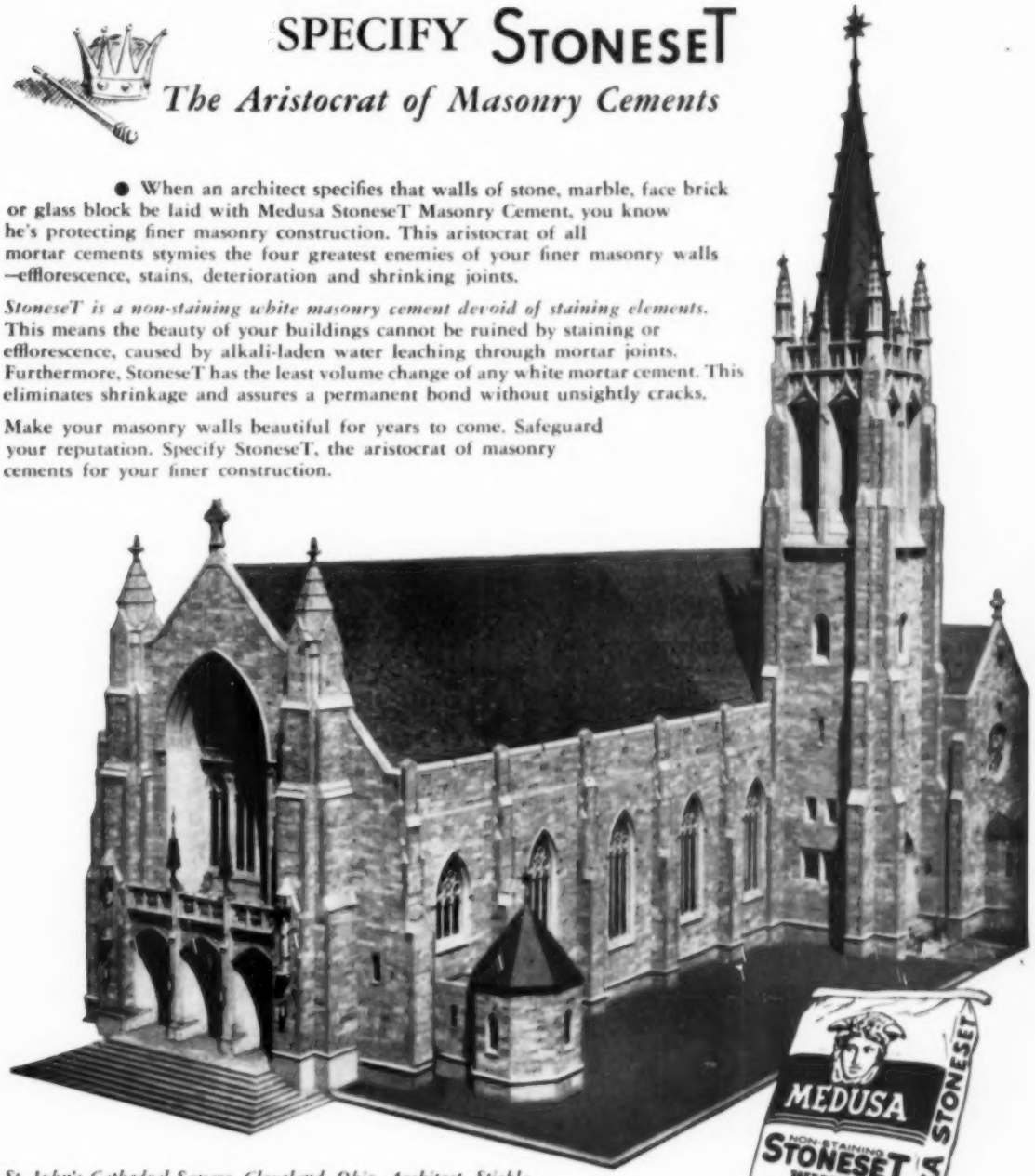

St. John's Cathedral Square, Cleveland, Ohio. Architect–Stickle & Associates; General Contractors–Cleveland Construction Co.

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Plants in California and Ohio
Distributors in Principal Cities

notices

company distributors

B. T. Roe, vice president, Tracy Kitchens Division of Edgewater Steel Corp., has announced the appointment of two distributors, Glenn Earl, Inc., of Salt Lake City and Philadelphia Wholesale Distributors of Philadelphia.

Glenn Earl, Inc., will distribute Tracy Kitchens in Utah, Idaho, five counties of Nevada and Wyoming, and one county of Oregon. Glenn Earl, President, has built one of the largest Electrical Appliance Distributor organizations in the intermountain west since 1945 when he organized the company.

Eight southeastern counties of Pennsylvania, five adjoining counties in New Jersey, and three in Delaware will be serviced by the Electrical Appliance Division of Philadelphia Wholesale Distributors under the direction of Sales Manager, Reg Martin. The founder and president, D. D. Weiss established the firm in 1924 and today it also consists of a separate Automotive and Toy Division with a branch in Allentown, Pa.

new address

The Trane Company, manufacturer of heating, ventilating, and air-conditioning equipment, announces that the new location of its Columbia, S. C., sales office is 2740 Devine St. Arthur M. Suggs is sales engineer in charge of the office.

P/A Congratulates . . .

D. J. Calvert, new sales manager of Clayton & Lambert Panic Exit Device Division of Clayton & Lambert Mfg. Company, 1701 Dixie Highway, Louisville 10, Ky. Announcement was made by R. J. Miller, vice-president in charge of sales.

Henry W. Tavs, new general sales manager, in charge of national and foreign sales and advertising for all divisions of The Ludman Corporation, P. O. Box 4541, Miami, Fla.

John O'Hara Harte, new regional sales manager of the E. A. Nord Sales Company, Everett, Wash.

John W. Marton, new San Francisco District Manager of Virginia Metal Products, Inc., Orange, Va.

The STANDOUT ELECTRIC PLANT for STANDBY ELECTRIC POWER

Model 10CW
10,000 watts A.C.

the New "CW" ONAN
5,000 or 10,000 watts

Here's a powerhouse of emergency electricity with features and performance that make it a standout!

The CW is compact and lightweight. It is easier to install and requires a minimum of servicing. Air-cooling avoids trouble from leaking or freezing of coolants.

New vacuum cooling and the smooth-running, 4-cycle, twin-cylinder, horizontally-opposed, air-cooled engine give the CW amazing quietness. All moving or heated parts are safely enclosed.

The Onan CW, with all its exclusive advantages, *costs less than any other* complete electric plant of its capacity.

COMPACT
Requires less than cubic yard of space, half that of other 10 KW plants.

BUILT FOR HEAVY DUTY
Two-cyl., 4-cycle engines operate at moderate speed. Large bearings.

UNI-DUCT COOLING
Cools generator & engine. One vent discharges both heated air and exhaust.

DELUXE EQUIPMENT
Includes engine enclosures, instruments and controls. Nothing extra to buy.

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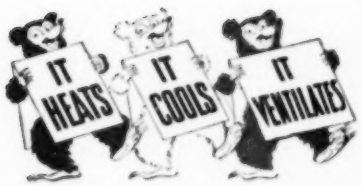
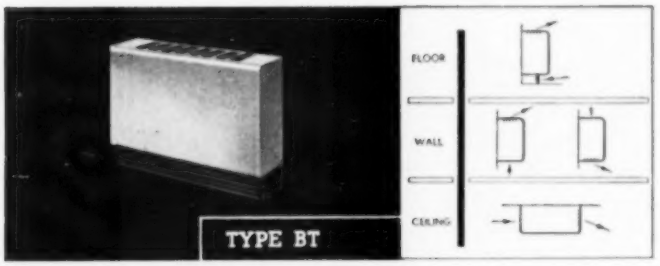
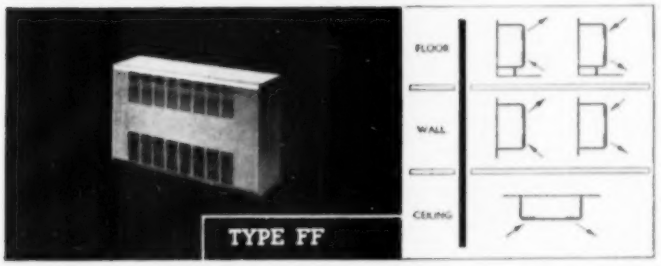
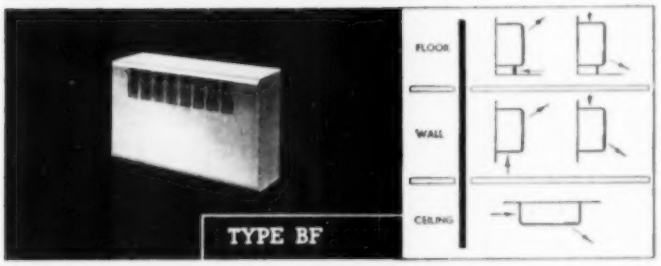


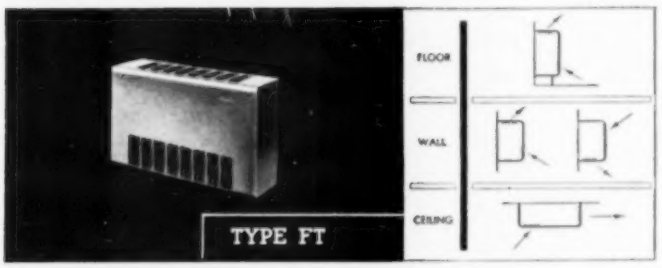
TOPS in VERSATILITY

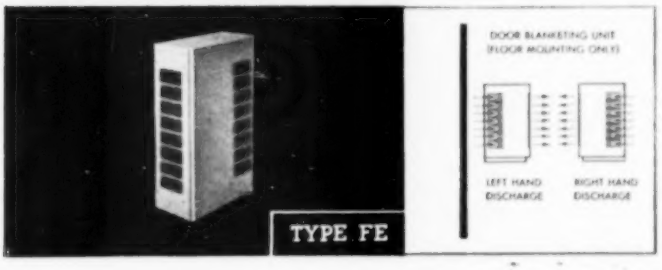
Modine Cabinet Unit provides year 'round comfort for any building











Choose from 5 attractively styled enclosure designs

FOR maximum heating flexibility, you can't beat Modine Cabinet Units. Five different models offer a wide variety of inlet-outlet combinations.

Some are for steam or hot water heating only. With others you can heat — or cool with chilled water. Inexpensive accessories permit ventilating with fresh outside air.

Mounted on floor, wall or ceiling, they provide quick, positive, quiet heat distribution. Ideal for concealed installation with ducts. And they're economical — cost considerably less to install than individual unit ventilators or air conditioners.

Whether you're planning new construction or modernization, be sure you see Modine's newly expanded line of Cabinet Units. For commercial, institutional or public buildings, they're the low-cost answer to year 'round comfort.

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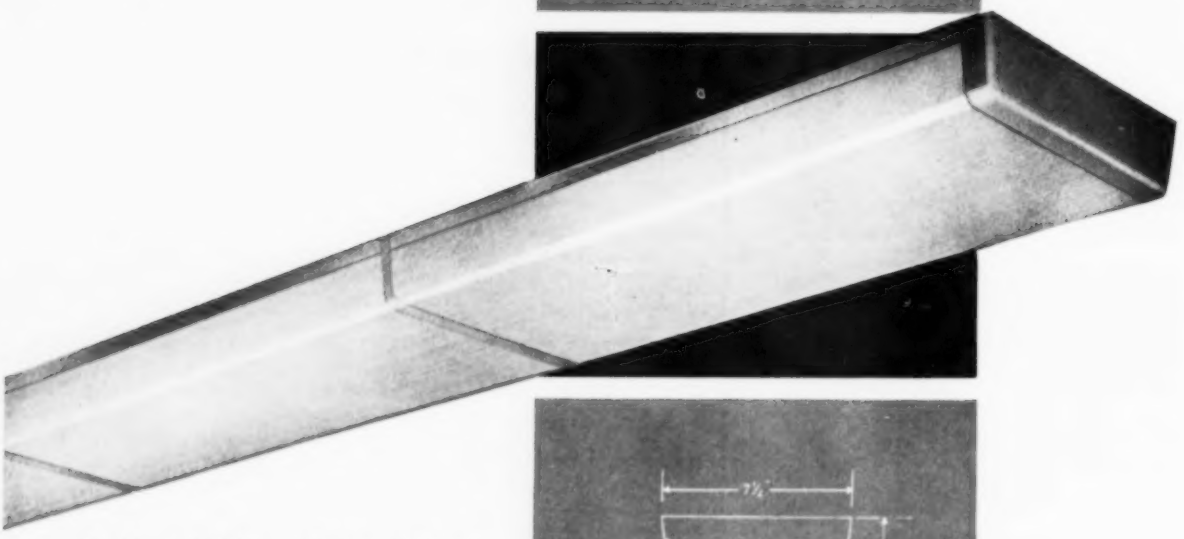
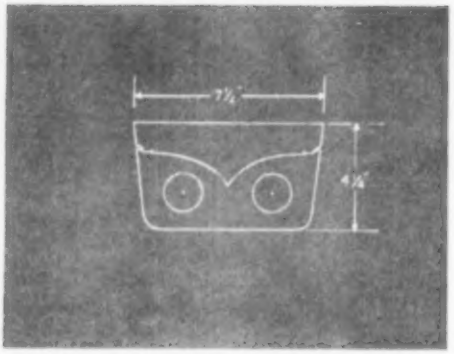
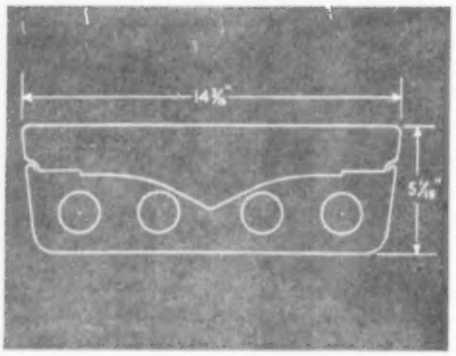
in four and two light versions







fully diffused lighting ...trim, crisp design

Our highly efficient Sightron series is now available in a new four light version. Both four and two light fixtures offer trim, unobtrusive design that maintains the architectural integrity of any area. Both now have concealed hinges at side of diffuser to make maintenance simple, and both now have rapid start ballasts to produce instantaneous lighting. Ribbed plastic diffusers give an even glow of fully filtered light without shadows. May be used individually or in continuous runs. Quickly and easily installed. Ends are white enamel. Accessory pieces to match.

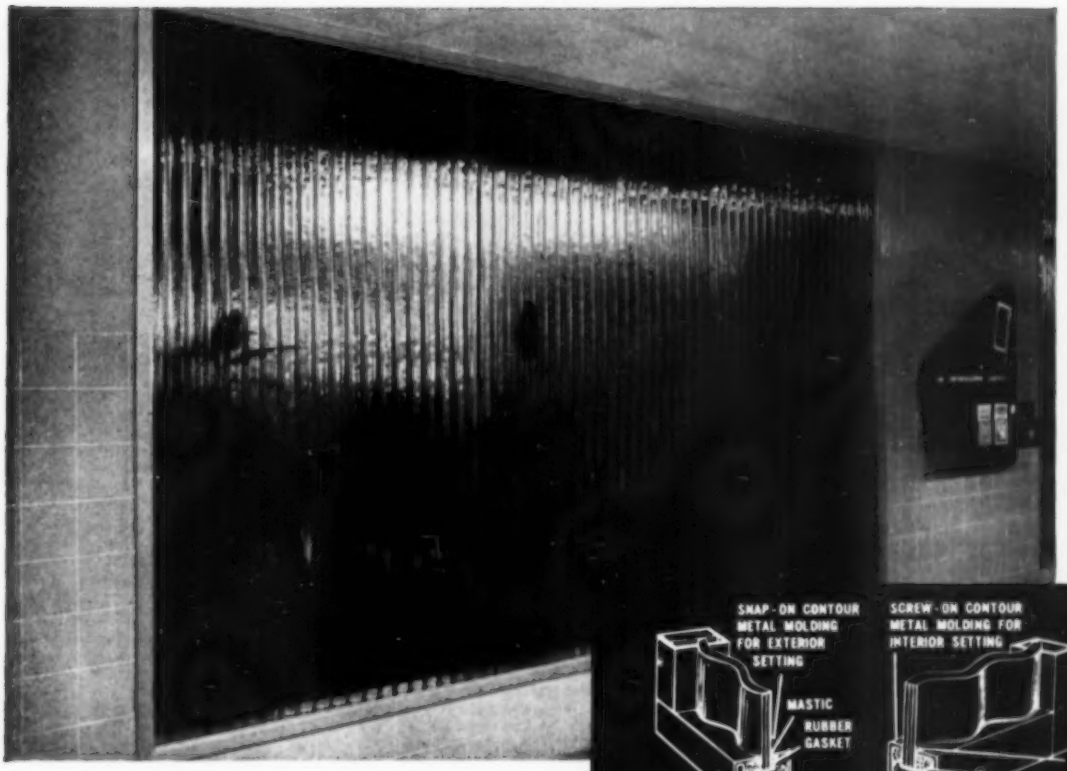
End section drawings above show placement of lamps in two light (top) and four light versions of Sightron fixtures.

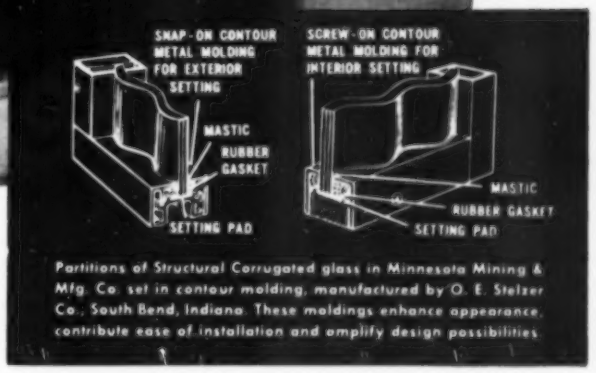
Write today for free brochure of architectural lighting by Lightolier.

Lighting by LIGHTOLIER

JERSEY CITY 5, NEW JERSEY

3M COMPANY ....MAKES WALLS BRIGHTEN HALLS





Partitions of Structural Corrugated glass in Minnesota Mining & Mfg. Co. set in contour molding, manufactured by O. E. Stelzer Co., South Bend, Indiana. These moldings enhance appearance, contribute ease of installation and amplify design possibilities.

In its new office building, Minnesota Mining and Manufacturing Company has found that walls of Structural Corrugated glass by Mississippi are good business. The gleaming, translucent partitions flood hallways and offices with borrowed light and create a modern, efficient and pleasant working atmosphere. Offices seem larger, too. And these Structural Corrugated glass panels are so easy to maintain . . . they clean easily . . . never need painting . . . never wear out. Glass always looks good.

For new construction or the modernization of existing facilities, consider the many applications of rolled, figured and wired glass by Mississippi. Available in a wide variety of patterns and surface finishes wherever quality glass is sold.

Send today for free catalog, "Figured Glass by Mississippi." Samples on request.

There is no Substitute for GLASS!

It is non-combustible . . . won't burn. It is rigid . . . doesn't sag or warp. It has a permanently hard, impervious surface, not affected by time, abrasion or exposure to the elements. It won't corrode or stain. It resists chemicals — acids, solvents, etc. It is easily installed, maintained and cleaned by conventional methods.

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SITUATIONS OPEN

WANTED ARCHITECTURAL DESIGNER—not over 50 years old, to take charge of office of old-established firm with diversified clientele, Mid-South location. Give complete information in first letter. Personal interview will be arranged. Excellent opportunity. Box 31, PROGRESSIVE ARCHITECTURE.

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ARCHITECTURAL DRAFTSMAN — experienced in preparation of working drawings and details. Wanted for small office of contemporary design in Colorado Springs, Colo. State full record of experience and education, starting salary and availability. Box 37, PROGRESSIVE ARCHITECTURE.

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PRINCETON UNIVERSITY ARCHITECTURAL GRADUATE—with five years' office experience in architectural firms desires to find design job in the residential development field with a developer or a firm specializing in prefabricated homes. Examples of work, background, and character references furnished on request. Write Box 36, PROGRESSIVE ARCHITECTURE.

SAN FRANCISCO BAY ARCHITECTS NOTE —graduate architect, 34 married, with 12 years' architectural and engineering experience who is developing excellent structural sense, design judgment, and drafting ability wishes to meet good architect with promising practice and contemporary approach. Object: long term association. Box 38, PROGRESSIVE ARCHITECTURE.

EUROPEAN ARCHITECT — 30, 5 years, experience in small well-known offices in Germany, Finland and mainly U. S., handling all phases. Desires position with responsibility in small or medium office with demand for high quality design as designer, detailer, job captain for contemporary work, possible partnership. Box 39, PROGRESSIVE ARCHITECTURE.

ARCHITECT — 47, A.I.A., registered 5 states NCARB certificate. Desires position in medium office. Capable designer, client contact, etc., possible partnership, married. Box 40, PROGRESSIVE ARCHITECTURE.

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REGISTERED ARCHITECT PROFESSIONAL ENGINEER—degree, 12 years' good design and outside experience in several geographical sections on institutional, commercial, industrial and other project types. Uncommonly thorough structural and mechanical background. Conditions permitting wish permanent location San Francisco area; children's education years just beginning. Fluent Spanish, German, $600. Box 41, PROGRESSIVE ARCHITECTURE.

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ARCHITECT-ARTIST AND DELINEATOR — of long experience, offers services for freelance architectural renderings and perspectives, birds-eye views of real estate developments, city-planning projects, engineering structures, highways and bridges. Construction of "perspectives in lines," without rendering. Instruction in Perspective and Rendering. Theodore A. De Postels, A.I.A., 644 Riverside Drive, New York 31, N. Y. AUdubon 6-0160.

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RETIRING ARCHITECT OFFERS FOR SALE—his business (since 1924) and combination office and home. Contemporary design brick and clapboard, built in 1949; drafting room, reception, combined living and dining, sewing, two bed rooms, bath, porch, garage. Heating radiant glass panels, gas-fired pressure warm air; oversize duct system for future air conditioning. Located on boulevard in center of a lovely north Jersey suburb on an increasingly valuable site of one and one-third acres; access to lake across boulevard. Morris County's rapid industrial development makes location also ideal for an engineering practice. Price, $40,000.00. Possession this Autumn. Box 42, PROGRESSIVE ARCHITECTURE.

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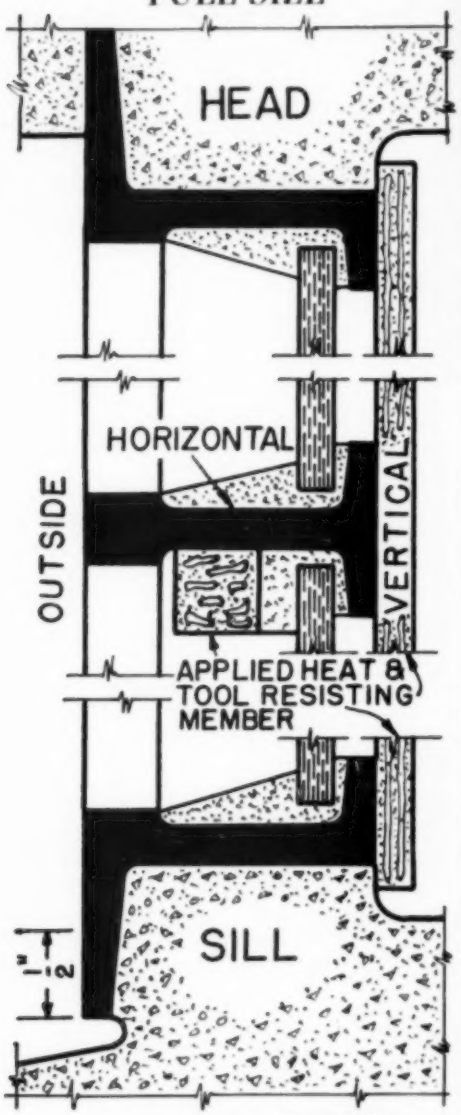
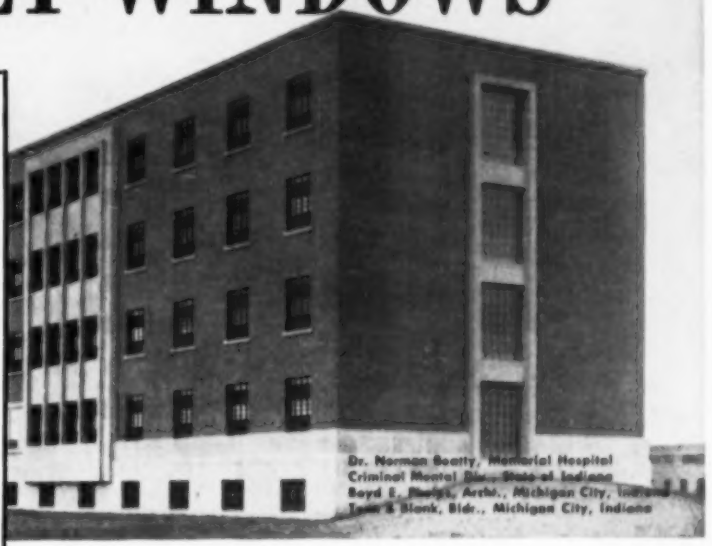
Super-Resistant Guard
for maximum detention
FULL SIZE

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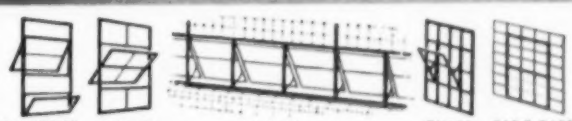
Bayley Guard Windows combine detention guard, ventilator and screen in single unit

A quality product is a Bayley "must." But to Bayley that means more than quality of fabrication. It means also enhanced utility — the constant endeavor to improve designs for better meeting the demands of the different types of modern buildings. The Bayley Guard Window exemplifies this policy. It provides buildings designed for detention with a specialized window offering such features as:

Ventilator and ventilator frame fabricated as a unit, for later attachment to the guard in the field • Guards may be shipped in advance of the ventilators, for setting in masonry walls • Ventilator hardware is shop-attached for better fit and operation • Ventilator attachment can be done during the finishing stages of construction, thereby preventing damage to contacts, hardware and finish • Glazing and painting of ventilators may be done separately, under most favorable conditions • Screens are installed from the inside, between the guard and ventilator, protect guard portion in ventilator from tampering.

Whether your needs call for a guard window of this type, or a window of different utility you'll find extra values in Bayley's years of specialized window experience. Write or phone.

See Bayley in Sweet's. Complete catalogs on aluminum windows, 16a/Bay; steel windows, 16b/Ba; Hospital Detention Window, 16b/Bay.



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Rotary OILDRAULIC®

The modern elevator for modern buildings

Operation with or without attendant

Rotary electric control systems are tailored to the most exact requirements of each installation. A complete line of modern control and signal accessories enables you to match the architectural appointments of the building.

Distinctive elevator entrances

Oildraulic Elevators can be equipped with any type of entrance the owner desires or the architect specifies. Frames, sills, doors, trim, hanger covers and facia plates are available in a wide range of patterns, metals, finishes and colors. Elevator doors and frames can be simple or ornate, modern or traditional, to match the building interior.

Passenger Elevators

For architectural beauty, construction economy, low operating costs

No penthouse or heavy sidewalls needed

There are several very good reasons why Oildraulic Passenger Elevators are the most practical and economical type to specify within their ranges of travel and speed.

Architectural advantages

The elevator car and its load are supported by the hydraulic system—not the building structure. This makes unnecessary the costly, unsightly penthouse that interferes with modern architectural design. It also permits a substantially lighter shaftway structure. Rotary's compact electric power unit can be located in any convenient spot on any landing, or placed in an area with other mechanical equipment.

Operational advantages

The revolutionary Rota-Flow power system guarantees quiet, efficient operation and low operating costs. Because of simple design and construction, maintenance on an Oildraulic Elevator is also remarkably inexpensive.

Through the use of hydraulically operated control system (electrically actuated) and automatic leveling, smooth starts and stops and accurate landings are guaranteed. Automatic leveling is standard equipment on all Rotary Passenger Elevators, and costs less than automatic leveling on other types of elevators.

Coast-to-coast service

With over 75,000 Oildraulic Elevators and Lifts now in use, Rotary offers the most complete service in the oil-hydraulic elevator field. Look under "ELEVATORS" in your Classified Phone Directory or write us for the name and address of our distributor near you. They will gladly assist you on elevator plans and specifications.

Rotary

Oildraulic Passenger Elevators

Write for new Catalog RE-307

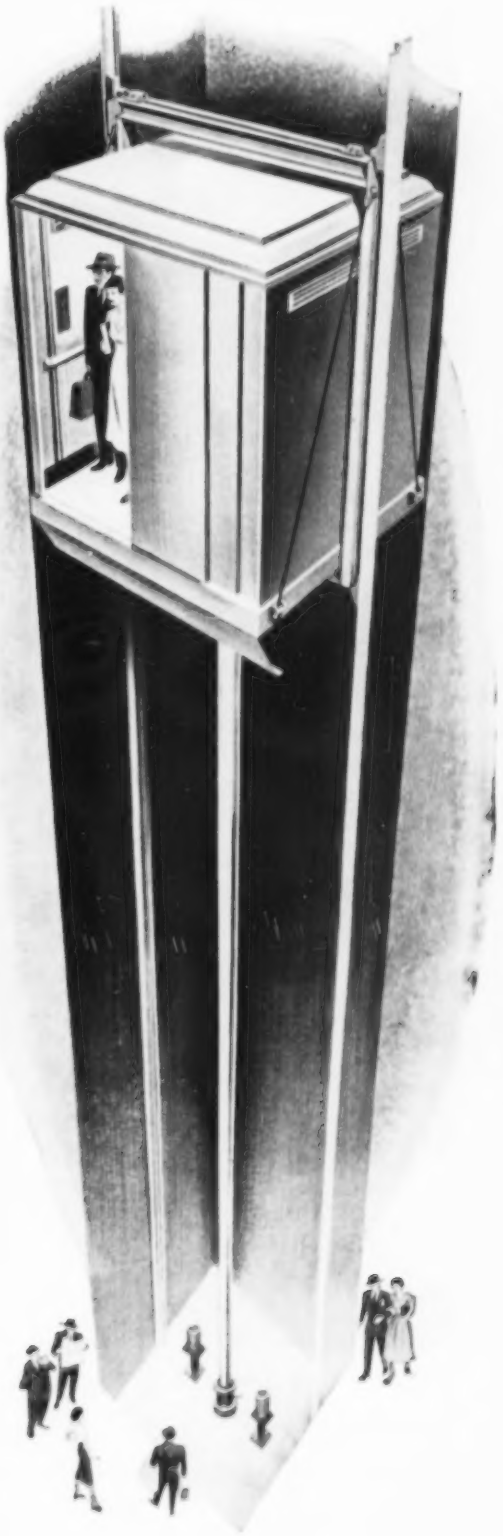
It's the most complete and helpful booklet ever issued on oil-hydraulic elevators for passenger service.

See our catalog in Sweet's Files

ROTARY LIFT CO.

1005 Kentucky, Memphis 2, Tenn.

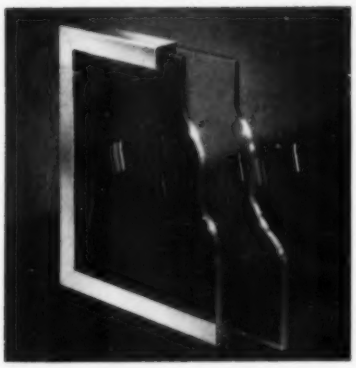
Specialists in modern oil-hydraulic elevators



THIS NEW BUILDING, housing the Los Angeles, California, division office of Lever Brothers Company, utilizes Solex heat-absorbing, glare-reducing glass for the greater comfort of its occupants. For Solex transmits about 75% of the total solar light, but absorbs at least 50% of the total solar heat. In this structure the reception room extends upward the full height of the building, with the side walls glazed with Solex. Among the other Pittsburgh products installed here are fourteen Herculite Doors, Polished Plate Glass, and Plate Glass Mirrors. Architects: Bechtel Corporation, Los Angeles, Calif.

How Pittsburgh Glass

figures in present-day architecture



IN ALL KINDS of commercial structures, the use of Pittsburgh Plate Glass enhances the over-all attractiveness of the design. This automobile showroom in Brooklyn, New York, is an excellent example of the integration of large areas of glass to create an open-vision front of immediate appeal. Here, three big Twindow show windows are ingeniously contrived so that, at the touch of a switch, they descend into a slot in the floor. This permits the quick movement of cars from the showroom to the street. Vita Automatic Windows, Inc., Woodside, L. I., New York. Nathan R. Ginsburg, A.I.A., Architect, New York City.

SOLEX–TWINDOW units, as shown in this sectional view, consist of two panes of glass. The outer is green-tint Solex . . . the inner is clear Plate Glass. Between them is a sealed-in air space. A stainless steel frame protects the seal and glass edges, makes handling safe and easy. These units offer the dual advantages of Pittsburgh's Twindow —"the window with built-in insulation"—and the heat-absorbing, glare-reducing properties of Solex—"the best glass under the sun!"

Design it better with **Pittsburgh Glass**

Your Sweet's Catalog File contains detailed information on all Pittsburgh Plate Glass Company products . . . Sections 7a, 13e, 15b, 16d, 21.

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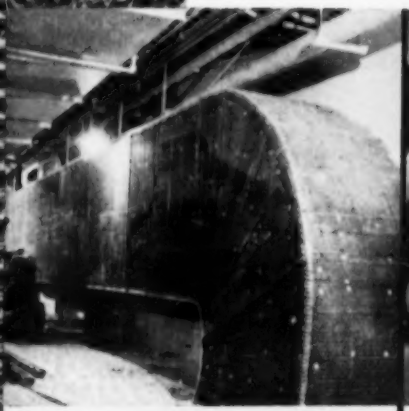
PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Proved on many thousands of types of reinforcing jobs all over the nation, the outstanding features of Keymesh make it the most versatile and *preferred* lightweight reinforcing obtainable. It is not only economical to use, easy to handle, but goes up fast, is noninjurious to the hands, provides smooth troweling, and really reinforces through its open-mesh design. The reverse twist weave and the hexagonal mesh design provides multidirectional reinforcing as well as greater bonding surface.



Keymesh used to provide a tight, durable key for insulation covering on supply ducts.

Applying Keymesh reinforcing as a base for interior tile. Notice the ease of handling.

see our CATALOG in SWEET'S FILE

Keymesh reinforcing lays flat as a strong, crack-resistant underbed for terrazzo floor—a more attractive and durable floor results.

KEYMESH GALVANIZED REINFORCING

the most versatile lightweight reinforcing you can obtain

As tile or terrazzo underbed reinforcing or used with concrete, mastic, oxychloride, asphalt emulsion and other finishes for *floors and walls*—Keymesh has gained wide acceptance and preference. It is easier to handle on the job, rolls out flat, and provides multi-directional reinforcing with greater bonding surface through its reverse twist weave and hexagonal mesh design.

Keymesh also assures a firm, crack-resistant base for any type of *roof deck* finish applied over a "mix" substance. In addition, it makes an easy-to-apply base for the insulation of large air ducts, pipe lines, outside tanks and vaults. Tile or similar surfacing installations applied over tubs, in showers, or in complete bathrooms remain water tight and structurally sound when the base is reinforced with Keymesh.

In fact, Keymesh will provide more permanent reinforcement for lasting quality and beauty on any location where stucco, plaster, concrete, or any finish over a "mix" base substance is used.

ASK YOUR SUPPLIER ABOUT KEYMESH

Roof deck installation starts with the application of Keymesh reinforcing in easy-to-handle rolls.

Keymesh reinforcing was nailed direct to old floor. New floor surfacing is being applied here over the reinforced base.

Keymesh reinforces plaster or any base for wall or floor tile assuring maximum crack resistance.

KEYSTONE STEEL & WIRE COMPANY, PEORIA 7, ILLINOIS

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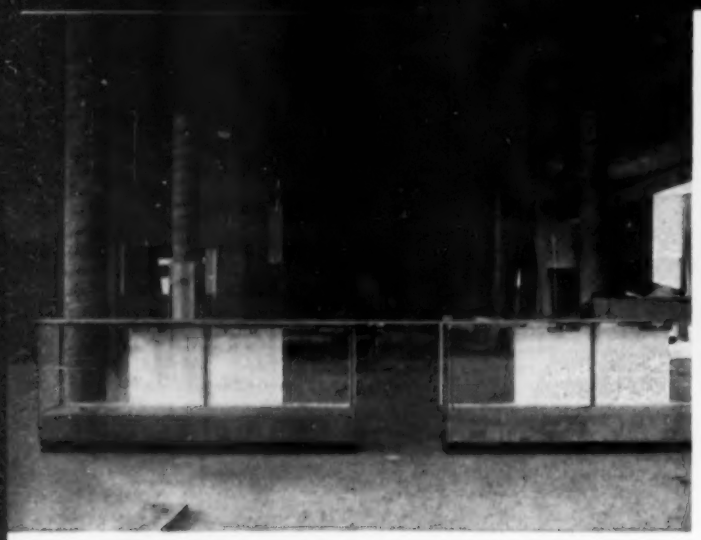
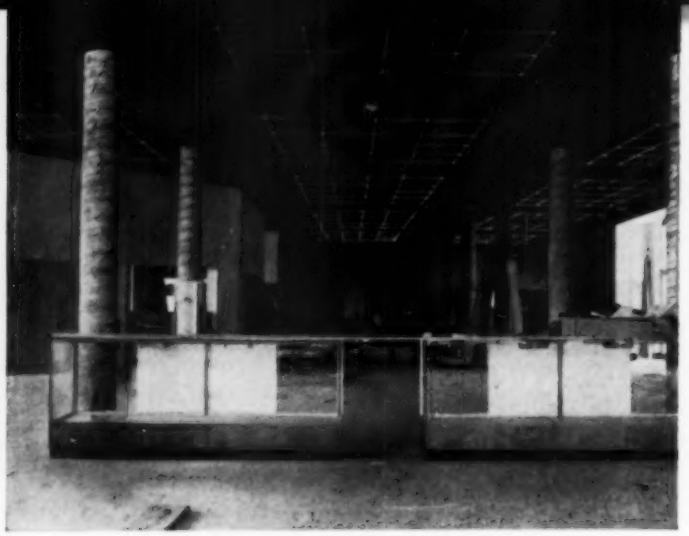
1544 First Ave., South
Seattle 4, Washington



The problem:

1 Lighting for a men's clothing store in a smart suburban shopping area. Competition keen. Objectives of lighting: (1) to make location dominant (2) to get distinctive appearance at reasonable cost (3) to provide properly balanced illumination for accurate nighttime appraisal of fabric colors and textures.



Lighting is planned.

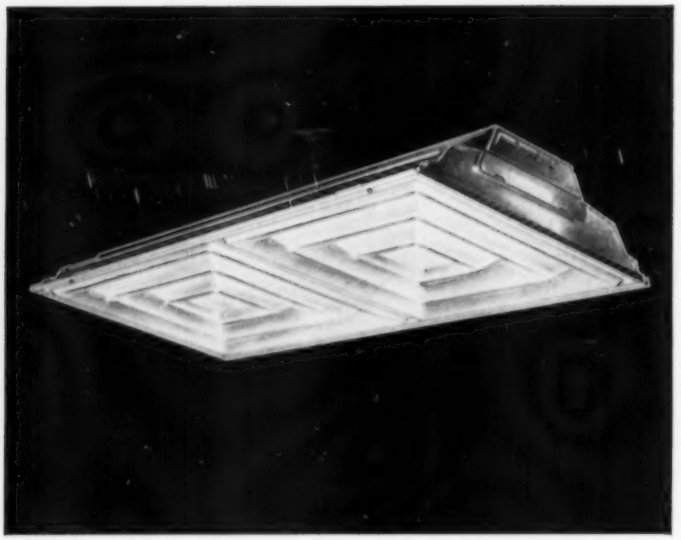
2 New grid-type suspended ceiling selected for flexibility, good accoustics and economy. Rectangular patterns of Day-Brite MOBILEX with plastic panels planned for uniform high level of general illumination. Louvered Day-Brite Derby Downlights at each corner of MOBILEX patterns to add "punch" lighting to installation.

How to combine good design and

Here, in words and pictures, are 8 interesting and idea-laden facts

Mr. Meier says. . .

5 Mr. Arthur Meier, manager of Boyd's Clayton store reports: "Using sales as a barometer, I'd say we made a sound investment in our Day-Brite lighting. Especially at night, we're attracting a lot of store traffic. We can and *are* selling men's apparel at night with full assurance that color will not change in daylight conditions."



A close-up of MOBILEX®. . .

6 Recessed lighting system designed for use with the new low cost grid-type ceilings. Also available for conventional ceilings. Glass, louvered or moulded plastic shielding panels. Available in 2′ x 2′ and 2′ x 4′ units, for 2, 3, or 4 lamps. Units may be used singly, end to end, or side by side, and in combination to form patterns.

The "Derbies" go on...

3 Ceiling and lighting installation complete, the Derby Downlights are turned on. "Derbies" alone account for about 20 footcandles of illumination. Warm incandescent light of "Derbies" gives installation sparkle and brilliance. Teamed with MOBILEX, "Derbies" produce color balanced lighting for accurate appraisal.

MOBILEX® goes on...

4 A flick of the switch and MOBILEX goes to work. Light meter reading for full installation measures 140 footcandles. Visibility excellent in every corner of store. Comfort extremely good. No glare. No harsh shadows. Recessed MOBILEX leaves ceiling plane smooth, unbroken. Rectangular patterns achieve good design.

economy to produce good lighting

about a new Day-Brite installation in Boyd's Men's Store, Clayton, Mo.

367

Versatile Derby Downlights...

7 Inexpensive recessing downlights. Available with removable louver or with 6¾" diameter Holophane Controlens* mounted in removable frame. Special adapter faces available for pin-hole downlighting and other decorative effects. Ideal units for mixing incandescent and fluorescent illumination. UL approved.

*® Holophane Co., Inc.

"DECIDEDLY BETTER"
DAY-BRITE®
Lighting Fixtures

The Name on the Fixtures...

8 The Day-Brite name is more than a promise of value. It's a *guarantee* of the most for your money by the nation's largest exclusive manufacturer of lighting fixtures. For catalog or information, write Day-Brite Lighting, Inc., 5405 Bulwer Ave., St. Louis 7, Mo. In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ontario.

Wide Andersen Casements frame a living picture of outdoor beauty. R. C. Quinlevan, designer

New, wider sizes bring you new

Now, new wide casements add 31 stock units to the 34 sizes in the 1′6″ sash width shown in Andersen's Unit Catalog. That means 65 stock sizes in all for Andersen Casement Window Units. Combinations of stock sizes are unlimited!

With 4½″ added to the sash opening, the new Andersen wide casement series gives you broader glass areas . . . creates an even narrower appearance for casement mullions . . . achieves more pleasing window proportions, especially in the 5′ height sash.

Sash of the new, wide Andersen Casements are 1′ 10½″ wide. They're available in single light or horizontal light glazing . . . also groove glazed single light with double insulating glass. Five heights and five widths—plus combinations with picture windows.

Write for Detail Catalog or Tracing File of Installation Details or see Sweet's Files for specification data. WINDOWALLS sold by millwork dealers.

Andersen Corporation

BAYPORT • MINNESOTA

WINDOW SPECIALISTS FOR 50 YEARS

Ventilation plus a view. Plenty of light and air make kitchen chores more pleasant. Charles Klopp, Architect, Palatine, Illinois

ANDERSEN Windowalls*

COMPLETE **WOOD** WINDOW UNITS

versatility in Andersen Casements

*TRADEMARK OF ANDERSEN CORPORATION.

New 1' 10½" wide casement sash in Cascade, Colo., home by Elizabeth and Gordon Ingraham, architects.

Several thermostats, strategically placed, are required to give proper temperature control in the Oregonian's large combination office and lobby area. Honeywell Customized Temperature Control keeps the comfort level just right in all areas, all the time.

Story of Honeywell Customized Temperature Control helps you

Learn about your business– from a publishing plant

Why a customized temperature control system is becoming a "must" for all types of buildings

How do you provide for real comfort if your building is large, has huge areas of glass and is exposed to the elements in all four directions?

And especially, how do you answer this question when your building accommodates such a variety of rooms as offices, press rooms, composing rooms?

For that matter, how can you be certain temperature control equipment will stand up under 24-hour operation and give the dependable service you can't afford to get along without?

With modification, these major questions which Oregonian officials in Portland, Oregon, and their professional advisers had to answer, can be applied to the businesses of your clients. The answer can be stated in five words: Install Honeywell Customized Temperature Control. This is the answer officials of the Oregonian Publishing Company have found eminently satisfactory. It is the answer for your clients, too.

Key reason why this is so is found in the word *customized*. This means that whatever the control requirements, Honeywell Customized Temperature Control *designed to meet the needs of the building* is your solution. This applies to heating and cooling, ventilation and humidity control.

The customized installation in the case of the Oregonian included careful selection and strategic placement of thermostats as indicated on the floor plan.

Specific problems solved by the Honeywell Customized Temperature Control installation are brought out in the photo captions.

TYPICAL FLOOR PLAN

For comfortable, even temperature in new or existing buildings—of any size—use Honeywell Customized Temperature Control

Whether it's an office, airport, hospital, apartment, church, school, factory, store, garage—or any size building—new or existing, Honeywell Customized Temperature Control can help meet your clients' heating, ventilating, air conditioning and industrial control problems.

Once equipped with Honeywell Customized Temperature Control, they'll have an ideal indoor "climate"—and save fuel besides.

For full facts on Honeywell Customized Temperature Control, call your local Honeywell office. There are 104 across the nation. Or mail the coupon today.

Architect of the Oregonian Building was Pietro Belluschi. Mechanical Engineering was by J. Donald Kroeker and Associates.

M. J. Frey, publisher of the Oregonian, says:

"Because of our complex comfort problem we have 110 separate temperature controls in the building. All of these are Honeywell controls. And they all perform in a completely satisfactory manner."

Several thermostats are necessary in the press room to compensate for heat from the presses themselves—and for solar heat entering through the big windows. Press room employee comfort is also well-guarded by Honeywell Customized Temperature Control.

The comfort problem in the editorial room is quite different. Workers at desks are much less active than press room employees, require a somewhat higher temperature. Loss (or intake) of heat from row of large windows must also be compensated for. But with Honeywell Customized Temperature Control on the job, these problems are easily met—and it's comfortable all the time.

MINNEAPOLIS
Honeywell

First in Controls

MINNEAPOLIS-HONEYWELL REGULATOR CO.
Dept. PA-9-177, Minneapolis 8, Minnesota

Gentlemen:
I'm interested in learning more about Honeywell Customized Temperature Control.

Name _____

Firm Name _____

Address _____

City _____ *Zone* _____ *State* _____

3 sure ways to better,

1. Plywood subfloors

FIR PLYWOOD subflooring can be applied in less than half the time required for lumber. Big panels cover large areas quickly . . . fit standard joist spacing without wasteful cutting and fitting.

Plywood subfloors are solid. Won't cup, squeak, swell or shrink . . . protect against drafts and air infiltration. Rigid plate-like action gives added protection against windstorms or earthquakes.

Specify PlyScord for Subfloors

*PlyScord is the economical unsanded construction grade of interior-type fir plywood. Glue is highly water-resistant (but *not* waterproof) and will withstand occasional wetting on the job.

INTERIOR FIR PLYWOOD PLYSCORD DFPA INSPECTED

2. Plywood underlay

TILE, linoleum or wall-to-wall carpeting lays flat, *stays* flat over smooth, flat fir plywood. Large, smooth panels do away with "humps" and ridges which mar beauty, offer points of wear.

Fir plywood underlay cuts costs, too. Saves time and labor. No felt needed; coverings can be placed directly on the plywood. No pre-drilling or special fastenings needed with plywood underlayment.

Specify PlyPanel for Underlay

*PlyPanel is the versatile "one-side" grade of interior-type fir plywood. For underlayment, for paneling, cabinet work and other indoor jobs where only one smooth side is required.

INTERIOR FIR PLYWOOD PLYPANEL DFPA INSPECTED

3. Plywood combined

HERE'S a real cost-cutter. Use a single thickness of fir plywood for both subfloor *and* underlay. Because plywood gives great structural strength *plus* smooth, flat surface, you save two ways: you save on materials, you save on labor.

Combined subfloor-underlay of fir plywood gives entirely adequate construction for any finish floor including tile, linoleum or carpeting.

Specify PlyPanel for Subfloor-Underlay

*PlyPanel is the versatile "one-side" grade of interior-type fir plywood. Use it for combined subfloor-underlay, for paneling, cabinet work, and other indoor uses where only one smooth side is required.

INTERIOR FIR PLYWOOD PLYPANEL DFPA INSPECTED

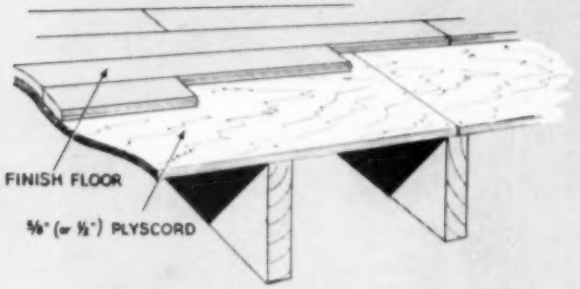
INTERIOR FIR PLYWOOD PLYSCORD DFPA INSPECTED

INTERIOR FIR PLYWOOD PLYPANEL DFPA INSPECTED

BE SURE OF QUALITY! SPECIFY DFPA-INSPECTED FIR PLYWOOD

* Always look for these registered industry trademarks—your guide, guard and assurance of DFPA quality-tested fir plywood. For detailed specification data write (USA only) Douglas Fir Plywood Association, Tacoma 2, Washington for 1953 Basic Catalog.

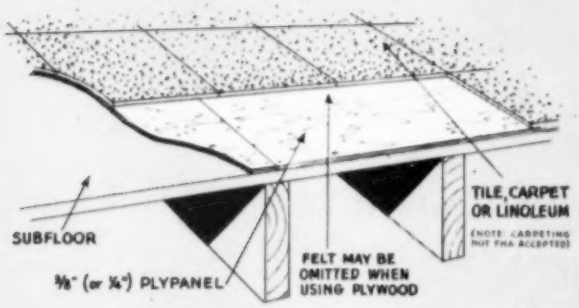
go down fast, cut labor costs in half



APPLICATION: Apply with face grain across joists. Usual installation is over joists 16" o.c., but spacing up to 24" o.c. satisfactory with 25/32" strip flooring. Use 8d com. nails for 5/8" plywood, 6d for 1/2"; nail 6" o.c. at panel edges, 10" o.c. on other bearings.

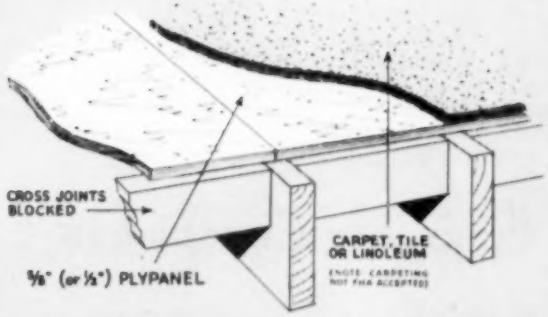
faster floor construction

makes floor coverings look better, last longer



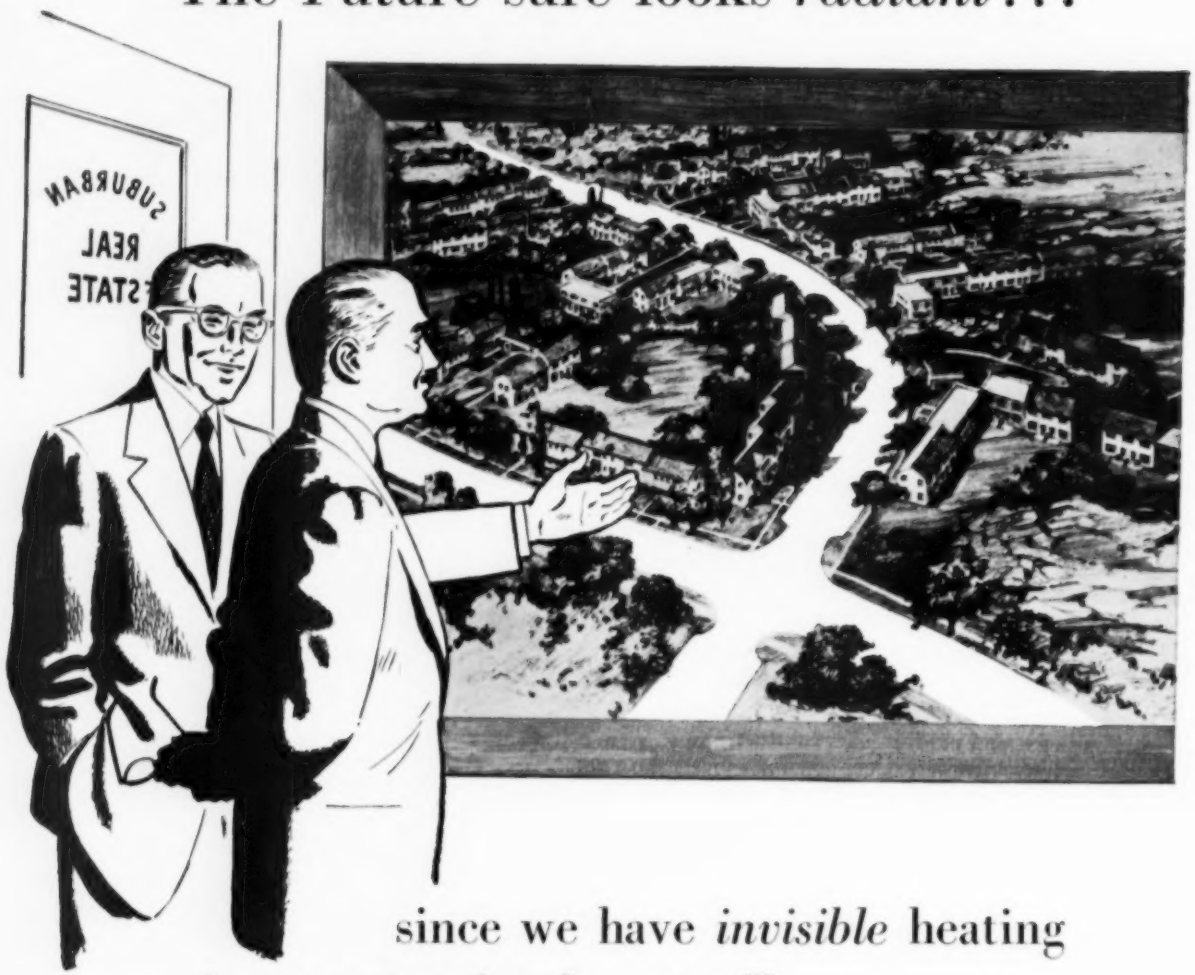
APPLICATION: Preferable to place panels with face grain running across joists, breaking joints over joists. Nail approximately 6" o.c. on panel edges, 8-10" o.c. elsewhere. Ringed nails hold better.

subfloor-underlay gives really big savings



APPLICATION: Apply panels and nail as for subflooring above. Note blocking along panel edges at right angles to joists.

"The Future sure looks *radiant*...



since we have *invisible* heating in our new development!"

Yes, real estate men, along with architects, engineers and plumbing and heating contractors, know that *radiant heated* properties are easier to rent and sell, command a maximum figure, reduce tenant and owner turnover, and minimize maintenance, cleaning and decorating costs.

Looking at it from *either* the owners' or tenants' side, it's easy to understand. Uniformly comfortable heat with no hot or cold spots, warm, draft-free floors to protect the health of the family, cleaner air, complete freedom of decoration from unobstructed wall and floor space . . . all add up to good reasons for mutual satisfaction.

Investment-wise, too, *steel pipe* encourages the use of popular radiant panel heating, in one or hundreds of dwellings. For in this single heat transmission medium is blended the advantages of economy, formability, weldability, and durability . . . all backed up by more than 60 years of *proved* performance in conventional hot water and steam heating applications.

That's why, for radiant panel heating, snow melting and other applications *steel* is the most widely used *pipe* in the world!

★ ★ ★

A free 48 page color booklet, "Radiant Panel Heating with Steel Pipe", is still available. A new, free companion booklet, "Snow Melting and Ice Removal Systems" is also ready! Ask for one or both, without obligation.

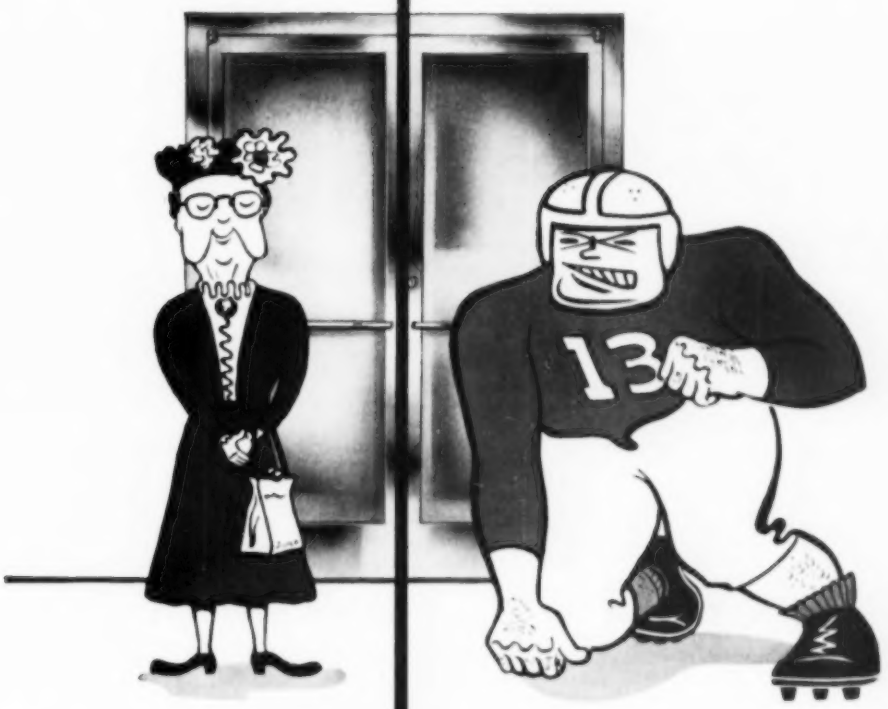
Steel Pipe is First Choice

COMMITTEE ON STEEL PIPE RESEARCH

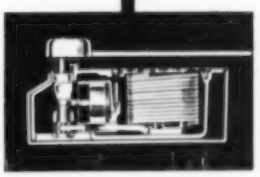
AMERICAN IRON AND STEEL INSTITUTE

350 Fifth Avenue, New York 1, N.Y.

it's for the likes of these...



that RIXSON closers



are specified for entrance doors...

Yes, Rixson Closers are designed to withstand extremes of public usage. Your entrance doors will open smoothly and easily to suit the gentle touch of the little old lady. And yet when the line-plunge, door-opening character goes into action, Rixson closers also have the stamina to "take it."

Door closers just can't be theoretic in function . . . made only to operate under ideal conditions. They must be practical to suit all extremes of public usage and abuse, through the years. 35 and 40 year old RIXSON entrance door installations have been functioning smoothly (some in the busiest restaurants) under every variety of public usage . . . and with a minimum of maintenance.

When you specify RIXSON by name and number, 53 years experience in manufacturing mechanized builders hardware backs your judgment and reputation.

THE OSCAR C. RIXSON COMPANY

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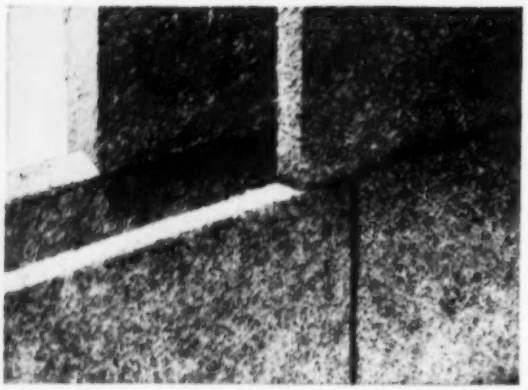
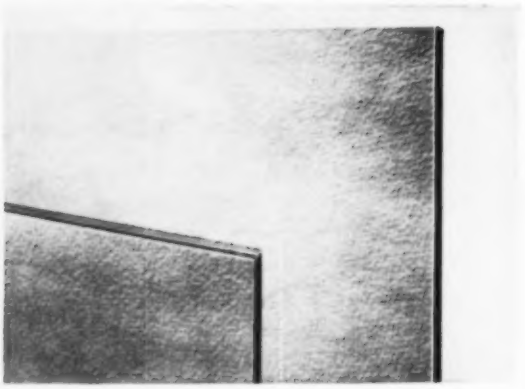
WHAT DO YOU LOOK FOR IN SHEATHING?



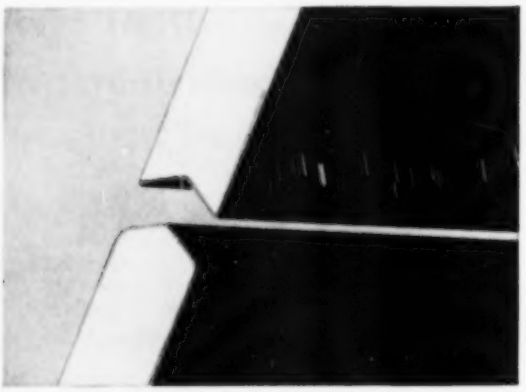


Strength?

New Gold Bond Asphalt-Impregnated Insulation Sheathing is one of the strongest, most economical sheathings on the market. When used in the $^{25}/_{32}$″ x 4′ x 8′ or larger panels, it adds enough extra strength to wood framing so that corner bracing can be eliminated. No building paper needed unless local codes require it; big areas can be covered fast—1000 square feet has been covered in 8 to 9 hours by one man on many jobs; minimum of cutting reduces waste to about 5% as compared with 20-25% for wood. Available in $^{25}/_{32}$″ x 2′ x 8′ with V-lap edges and in $^{1}/_{2}$″ and $^{25}/_{32}$″ x 4′ x 8′ and 9′ with square edges only.

Insulation?

Gold Bond Asphalt-Coated Sheathing, made from selected southern pine, supplies year-round weather protection and a smooth base for all sidewall materials. The fibres are impregnated with waterproof resin by the exclusive Multi-Seal process to make them moisture-resistant panels. The finished panels are asphalt-coated for extra moisture protection. Aluminum paint on all surfaces and edges retards passage of radiant heat, but "breathes" and is not a vapor barrier. Available in $^{25}/_{32}$″ x 2′ x 8′ with shiplap on the long edges, square edges on ends; $^{1}/_{2}$″ and $^{25}/_{32}$″ x 4′ x 6′ to 10′ lengths with square edges only.



Fire protection?

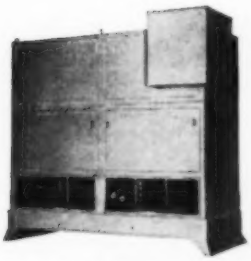
Gold Bond Gypsum Sheathing has a core that cannot burn. Special water repellent finish and asphalt-treated gypsum core give double protection against water and moisture. Tongue and groove edges assure wind-tight walls. Costs about $^{1}/_{3}$ less than wood; requires fewer nails. Exterior finishes, other than stucco, may be applied directly without using building paper (unless local building regulations require it); panels are easy to handle and cover big areas... one man can sheathe an average 2-bedroom house in one day. Available in $^{1}/_{2}$″ x 2′ x 8′ panels with tongue and groove on long edges and square edges on ends.

Gold Bond®
gives you all three!

Write our Architect Service Department for complete data and specifications.

NATIONAL GYPSUM COMPANY
BUFFALO 2, NEW YORK

Lath, Plaster, Lime, Sheathing, Roofing, Sidings, Gypsum Roof Decks, Wall Paint, Textures, Rock Wool Insulation, Metal Lath, Sound Control Products, Fireproof Wallboards and Decorative Insulation Boards.



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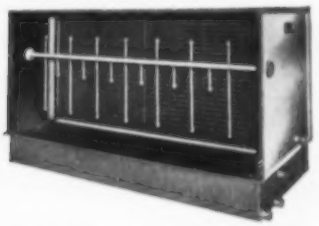
MULTI-ZONE UNITS—Sizes up to 36 sq. ft. Cooling Coil Face Area. Catalog MZ-1.



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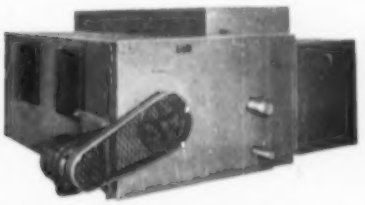
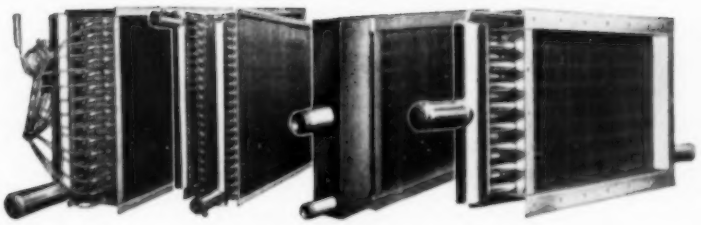


HEATING AND VENTILATING UNITS—Air Volumes 300 to 28,800 CFM. Catalog No. HV-1A.



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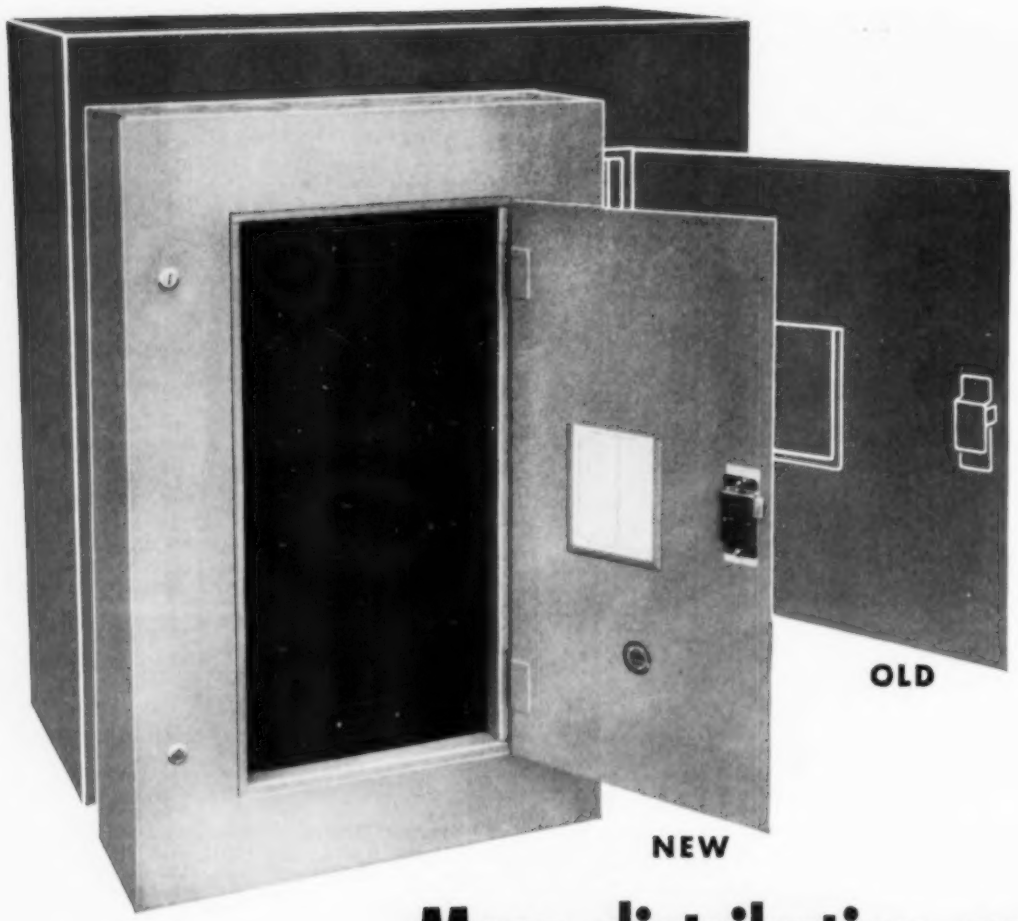
AIR CONDITIONING BLOWER UNITS—13 Sizes. 300 to 21,600 CFM. Horizontal or Vertical. Catalog No. AC-1.

Write for name of nearest representative and catalogs needed.

KENNARD CORPORATION • 1829 S. HANLEY ROAD ST. LOUIS 17, MO., U.S.A.



More distribution capacity in less space

Here's a more compact Convertible Distribution Panelboard for 240-volt, a-c* applications, up to 600-amp capacity with main lugs, or 225-amp main breaker with branch circuit breakers up to 100 amperes, 1, 2 or 3 pole.

This new NDP Panel supplements the well-known Westinghouse Type CDP Convertible Distribution Panel. In a cabinet 20″ wide, it is now possible to obtain circuit capacities for single phase as well as 3 phase and 3-phase 4-wire service, which formerly required the use of 30″ wide cabinets.

Certainly this outstanding development points to savings in money, material and space. Take advantage of it now. Simply call your Westinghouse Representative or write for DB-30-930, Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pennsylvania. J-93495

*—*also 125/250 volt, 3-wire d-c systems*

YOU CAN BE SURE...IF IT'S Westinghouse

how to simplify specification of acoustical materials

Consult with your

ACOUSTI-CELOTEX *Distributor*

—one source for all materials
—*undivided responsibility* for correct installation

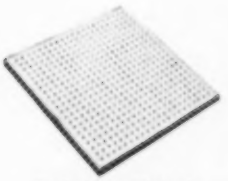
Whatever the acoustical problem, whatever the building code involved—count on your local distributor of Acousti-Celotex Products for time-saving, worry-saving "one source" materials and installation service!

He has a complete line of specialized acoustical products to meet every job and code requirement.

He is a member of the world's most experienced Sound Conditioning organization with hundreds of thousands of installations to its credit.

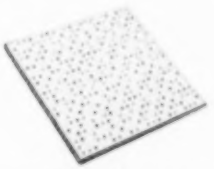
His professional training and experience encompass acoustical installations of every type, size and application technique.

All this means your distributor of Acousti-Celotex Products can *perform precisely to your specifications.* For details, write The Celotex Corporation, Dept. C-93, 120 S. LaSalle St., Chicago 3, Ill. In Canada, Dominion Sound Equipment, Ltd., Montreal, Quebec.



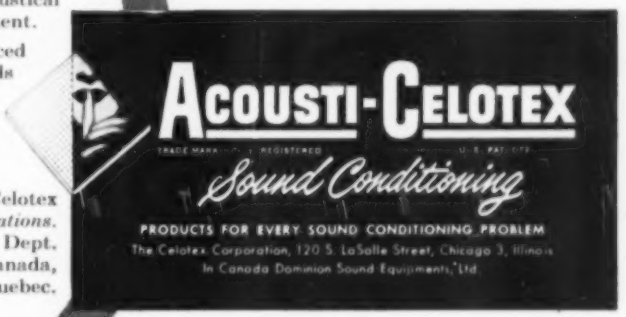
ACOUSTI-CELOTEX*
FLAME-RESISTANT SURFACED TILE

A cane fibre tile with a flame-resistant surface. This tile meets *Slow Burning* rating contained in Federal Specifications SS-A-118a. It may be washed with any commonly used solution, satisfactory for good quality oil-base paint finishes, without impairing its flame-resistant surface characteristics and without loss of sound-absorbing capacity. Repainting with Duo-Tex* flame-retarding paint will maintain peak efficiency. Supplied in all sizes and thicknesses of regular cane tile.



ACOUSTI-CELOTEX*
RANDOM PATTERN PERFORATED TILE

Protected by U. S. Design Patent D 168763. A dramatically beautiful new cane fibre tile offering exciting new decorative possibilities for interiors of every type. Has sharp perforations of varying size arranged in random fashion, and a pattern that minimizes joint lines. Rich, linen-like surface that gives better light diffusion. High sound-absorbing value. Can be washed repeatedly, painted repeatedly.


ACOUSTI-CELOTEX
Sound Conditioning
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The Celotex Corporation, 120 S. LaSalle Street, Chicago 3, Illinois
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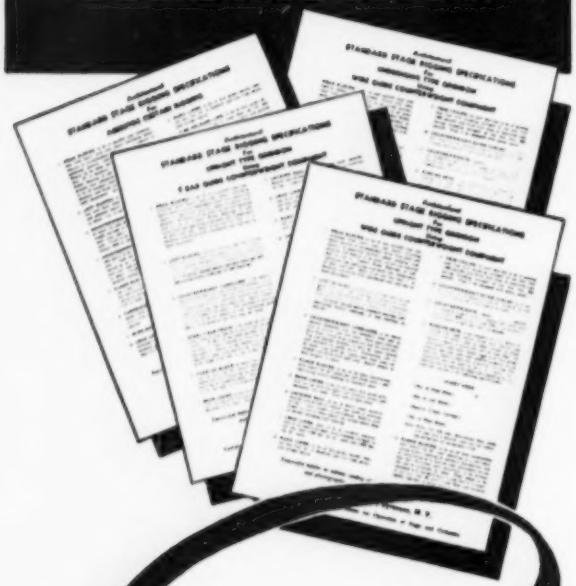

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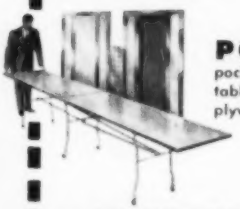

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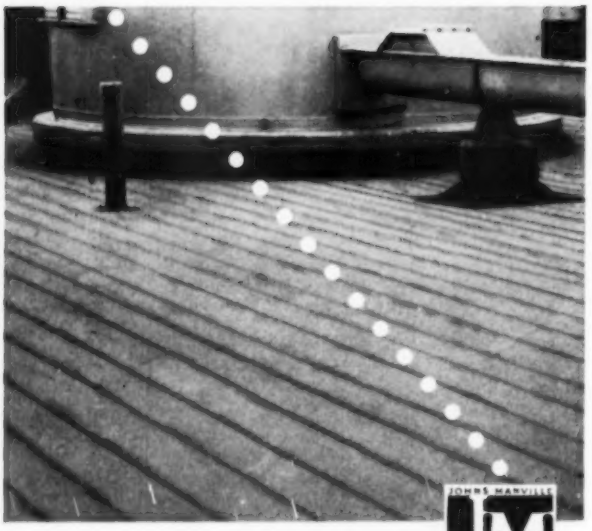

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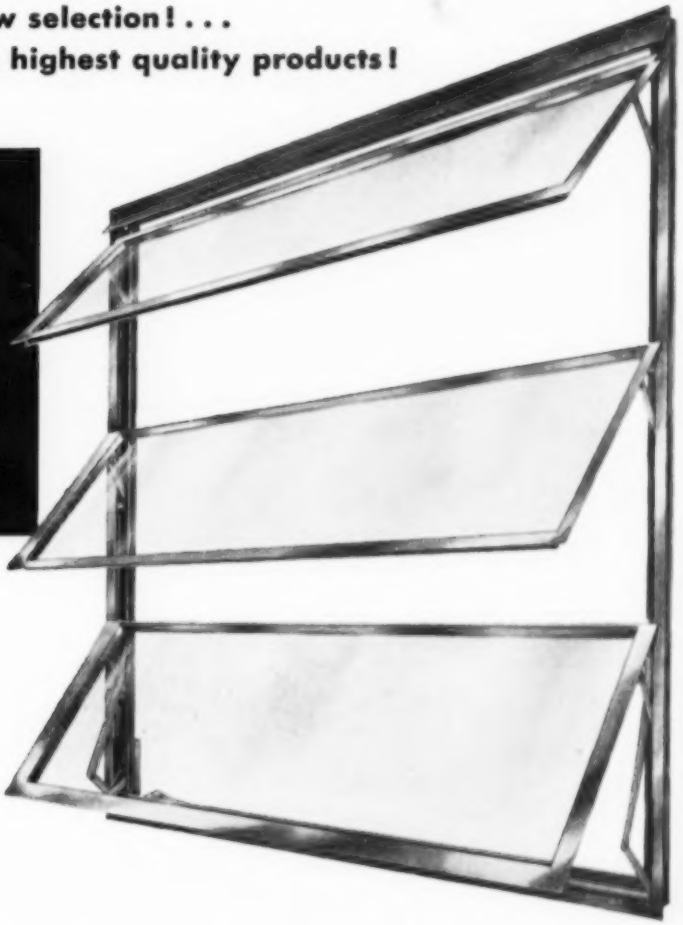

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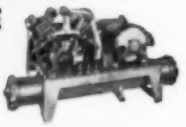

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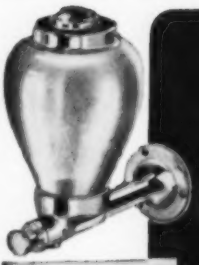

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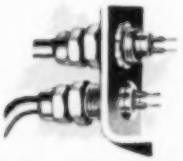

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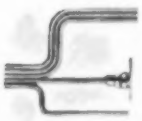

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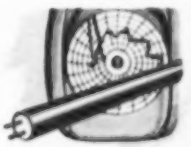

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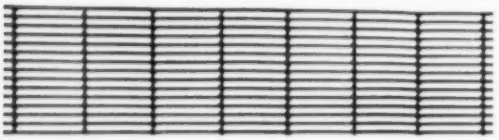

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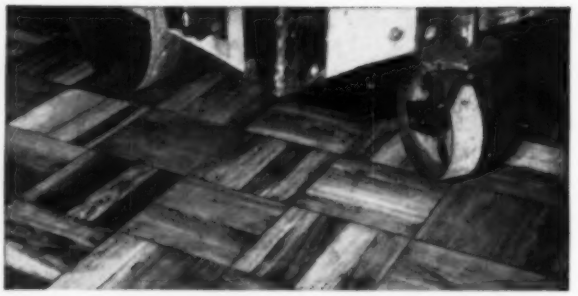

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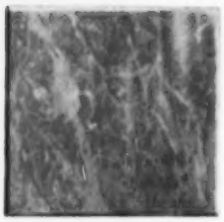

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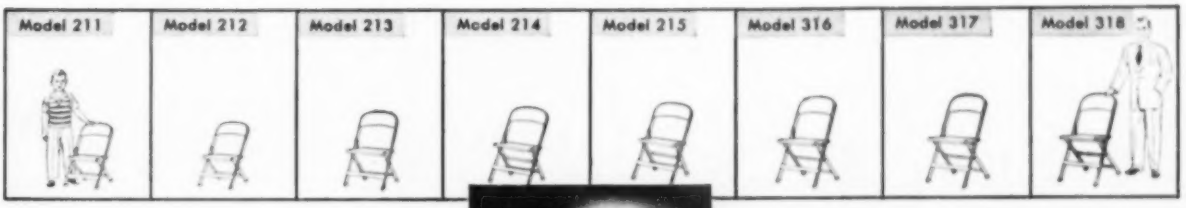

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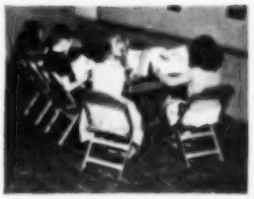

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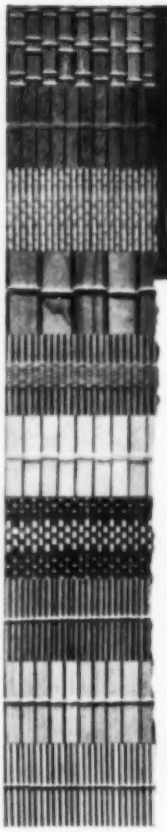

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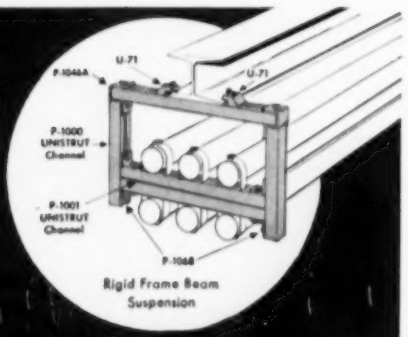

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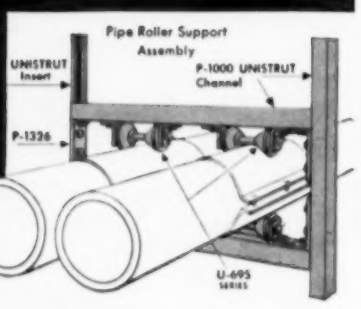

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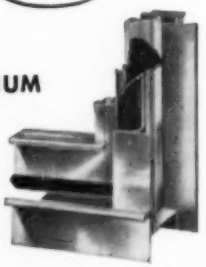

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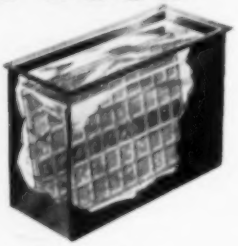

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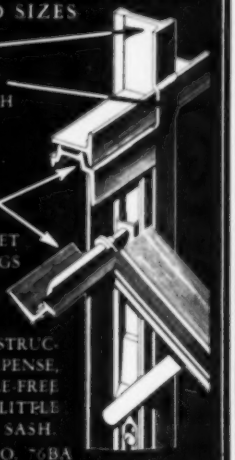

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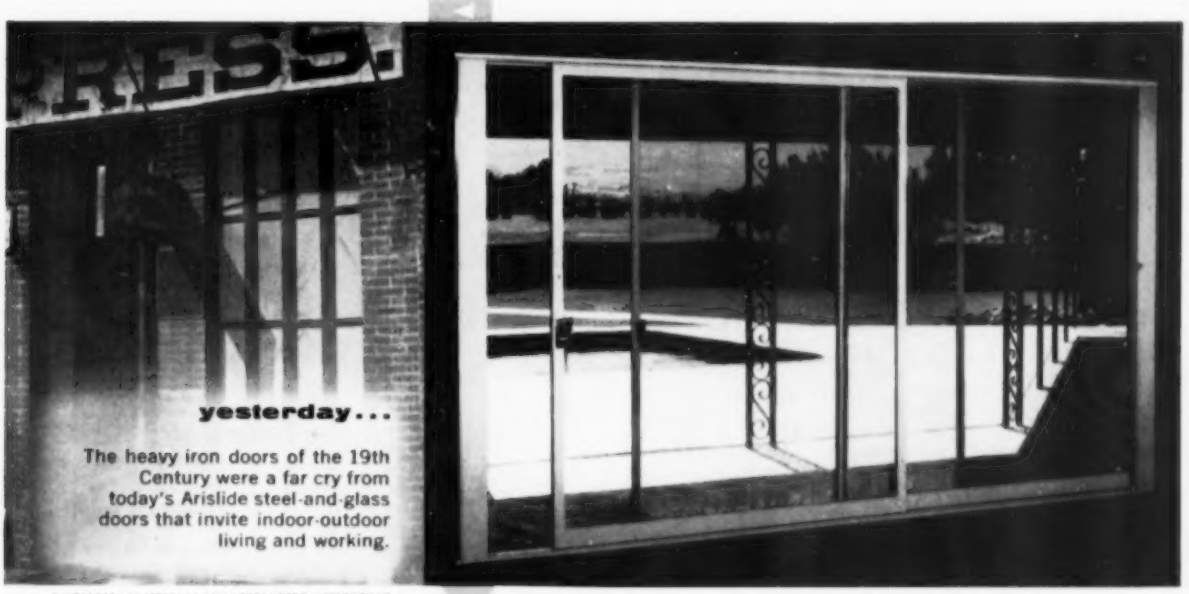

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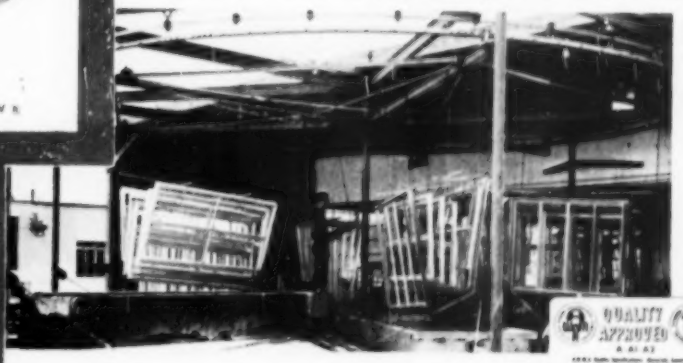

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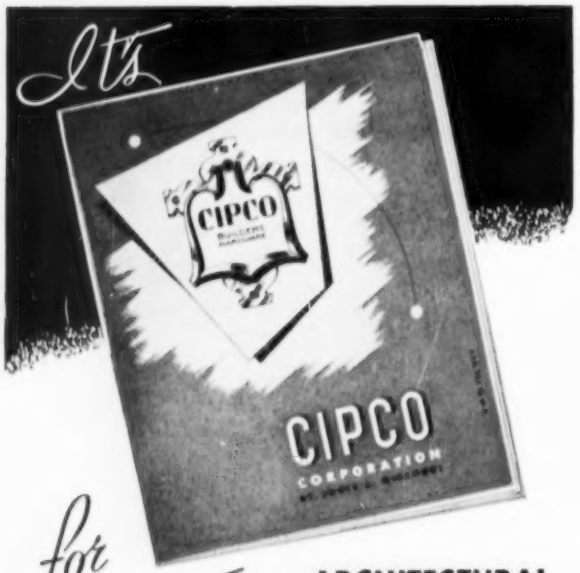

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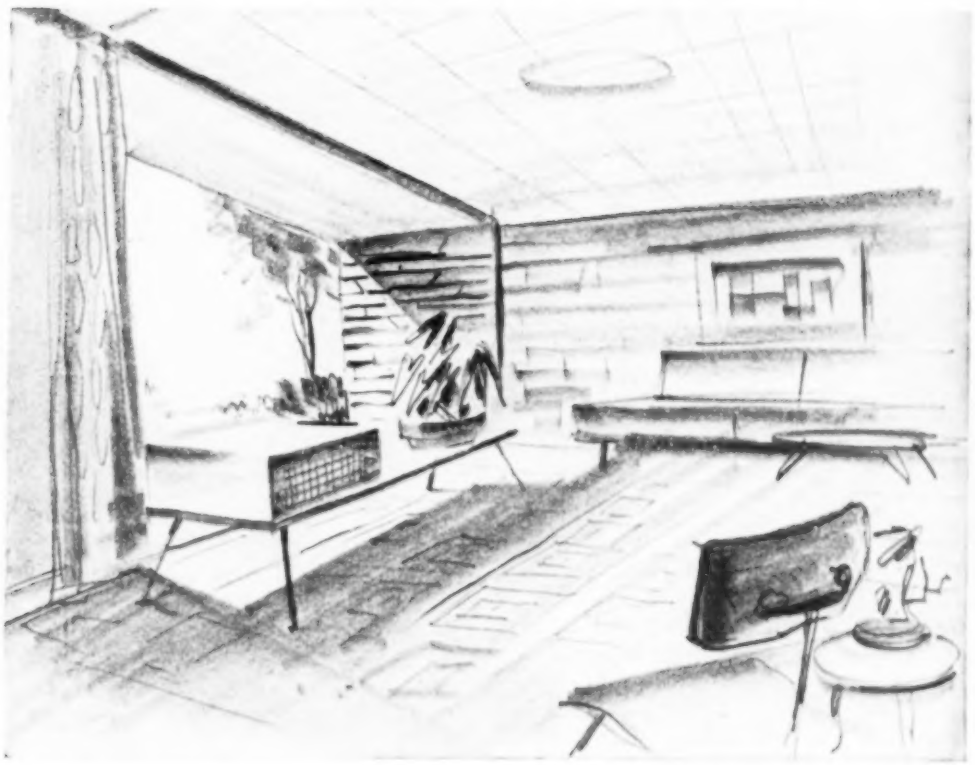

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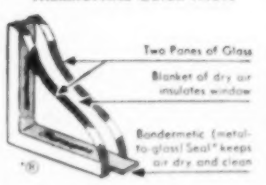

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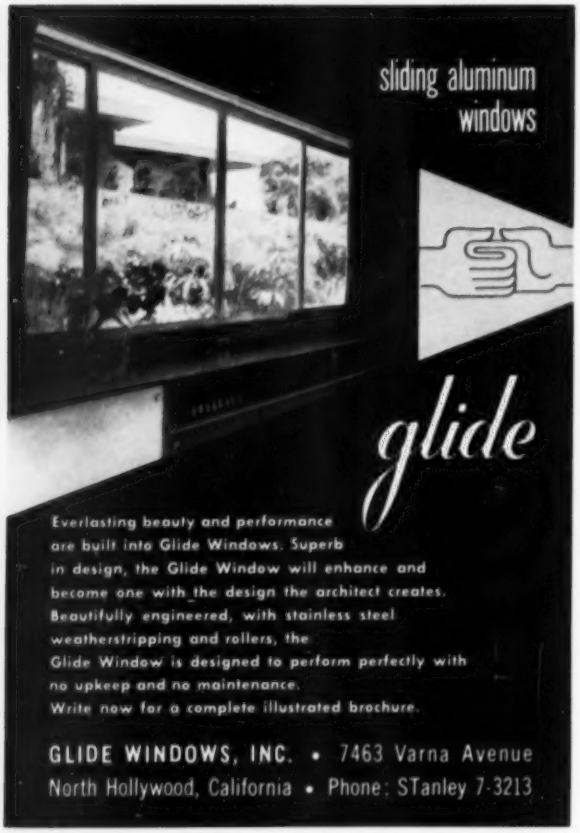

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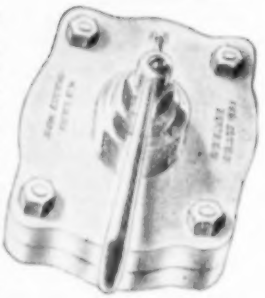

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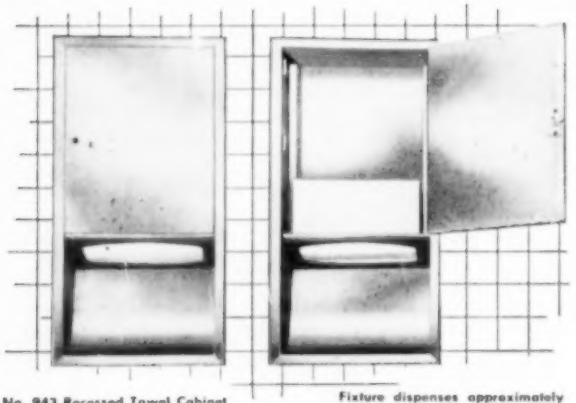

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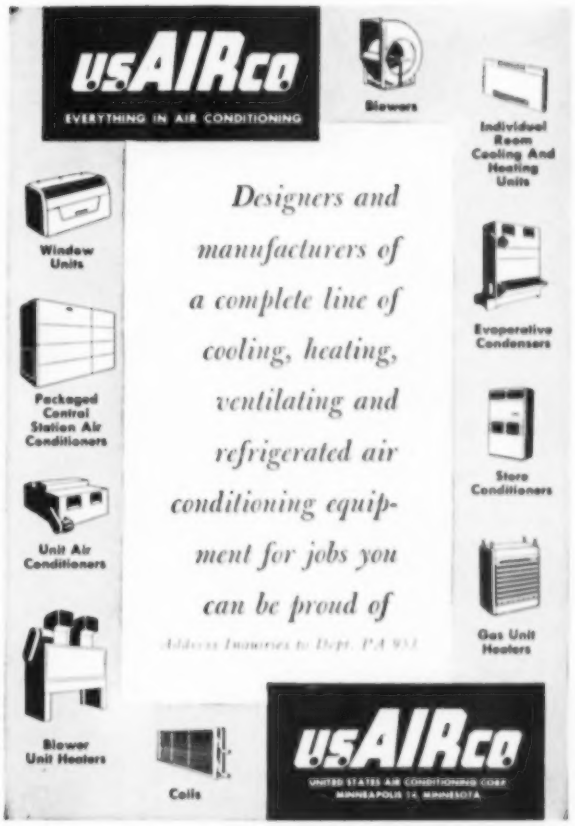

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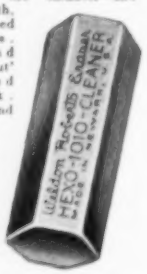

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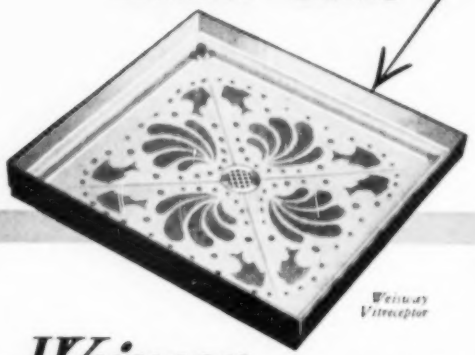

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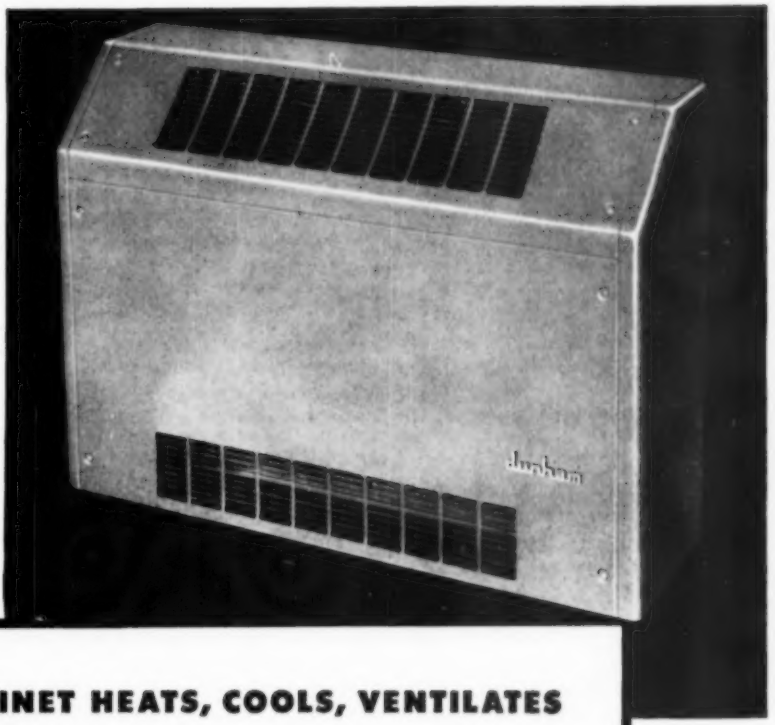

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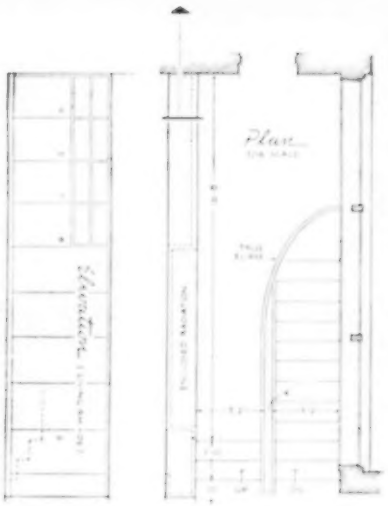

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P.S.

I am feeling very sad. After a recent swing around the country, I came back home convinced that we are in a crucial period of the development of architectural design in the United States.

There is now evident all over the country a fairly high level of design in the contemporary sense. There is very little work being done in a "traditional" medium of pure copyism. And there is a greater feeling for scale, value, texture.

There are now a great many middle-aged architects, who were the "younger group" of a few years ago, practicing successfully in various parts of the country with individual expressions ranging from great austerity to pure romanticism. Many of them are personal friends of one another, regardless of design approach.

There are now coming out of the schools many young, enthusiastic, talented, well-trained young men. They have been taught in many manners by many teachers, but they have all learned to handle the elements of architecture in a fresh and original way.

These things being so, the developments in the coming period—the next half century; the work done by the next several generations of architectural men—will be of prime importance. This seems self-evident. But what sort of work will it be? Will it take advantage of all we have learned, from many sources, so that it can assume many diverse forms within a unity of purpose? Or will it fail miserably and become a series of relatively unimportant stylistic spasms?

I am sad, because I feel now, strongly, the need for a unifying influence and, instead, I see evidence of a growing bitter strife. I am not thinking in any sense of a dictator or arbiter of taste, but rather of the need for some elder statesmen. We now have some grand old men of our own time. I feel that they are not filling the roles they should at this time.

•

Take Frank Lloyd Wright. Sometimes he is hard to take, because he is irascible, insulting, and at times outrageous. But he has every right to be those things, and the people who truly admire him love him all the more for those traits. He has already lived a long lifetime, a large part of it unappreciated by his countrymen, bedeviled by personal difficulties, ignored and often outright persecuted by his colleagues. Those times, for Wright, are past. He is recognized as the great architect of our time. He has received all of the Gold Medals and official honors the profession here and abroad can bestow. His words are listened to by multitudes of people. Students of all schools adore him. His own work has been more widely publicized than that of any other living architect, and the impact of that work and of his thinking on other architects is thoroughly acknowledged.

No one could do more to show the directions we should take, to point to the contributions that have been made, not only by himself, but by those before him and by those now creating along with him; to be a tolerant advisor, a wise, perceptive critic—in short, to be the elder statesman of architecture—than Frank Lloyd Wright.

I am sad, because I have been reading the statement that Wright has published as a pamphlet under the title "In The Cause of Architecture," and as an article which has been sent around to a number of publications and published by some of them under various titles. It is, in distinction to his former statements, no longer outrageous, but insulting; not critical, but nasty; not thought provoking, but vicious. It is hard to understand his turning on the Museum of Modern Art, for instance, which has given more one-man shows to him than it has any other creative artist; and the Museum's book based on its *Postwar Architecture* exhibitions, which showed more of his work than that of any other architect—as "totalitarian." We have gotten used to Wright calling other architects "callow professionals" or "puppets of promotion" or "imported architects," and referring to their work as "petty pretenses of small men." But it becomes a different thing, with a different import, and different result when he says of other distinguished designers, "They are not a wholesome people," and when he calls their accomplishments "an evil crusade." And certainly to refer to other design approaches than his own as "the communistic shadow descending over our own tradition," seems to me, in the present climate, to be no longer amusing, or instructive, or inspiring, but wholly vindictive and disrupting.

•

This was not meant to be an article on Frank Lloyd Wright, but rather a sad reflection that we have a sizeable group of able people now in the active phase of their careers, but we have no elder statesmen in the profession in the United States at this important moment. Our writers on architecture seem to be very timid or very partisan—or very uninformed. Most of those who have reached the Gold Medalist age have had no part, or a small part, in the development of contemporary design. Too many of our good people died too early—Hood, Goodhue, and others; while too many others—I think of Maybeck, and the Greenes—are inarticulate. We even have trouble finding someone who should, as an inspiring personality, head our professional society. You can't make such men out of thin air. But one can wish that they existed.

•

I have been torn during the preparation of this special issue of TV Stations, between my excitement about the potential of television as a medium for exchange of opinion and ideas, as well as for entertainment; and my intense dislike and personal boycott of the contraption in its present manifestation. I have looked at those horrible little figures grimacing at me from a tube (which never seems to be focused right) in hotel rooms, in bars, and in the homes of some of my best former friends; and I have sworn off until I have it proved to me that a great change has taken place.

One after another, my friends with TV sets built into the most ingenious places in their homes have had their chances to show me that one good program of the week which makes the whole thing worthwhile. That one good show is good only by comparison. The most childish approaches to "culture" and to "education"—insults to the intelligence of a backward adolescent—get enthusiastic attention from intelligent people who might better be spending their time reading *Pogo* or taking a good, refreshing walk around the block.

Apparently I am not alone in this antipathy, nor am I as violent as some others in my reactions. I haven't gone into a studio, beat an actor over the head with a bottle and stabbed a cameraman, as one bedeviled watcher did in New York recently. I think this is carrying one's dislike too far, although I admit the provocation is great.

Anyway, the business of watching and then stretching at commercial time is causing unforeseen complications. Serious fluctuations in demand on municipal water systems are being caused, according to an article in the trade magazine, *Public Works*, by people watching television sets. This slavish audience, the article says, "having their attention held by the program on the air, were, at the end of the program or during the commercial suddenly released. They then became engaged in many activities which were water consuming."

Nevertheless, as I said at the beginning of this piece, I certainly can see the potential and the exciting possibilities of the medium. At any rate, let's design better facilities for the industry; maybe that will help inspire better programs.

Thomas H. Creighton

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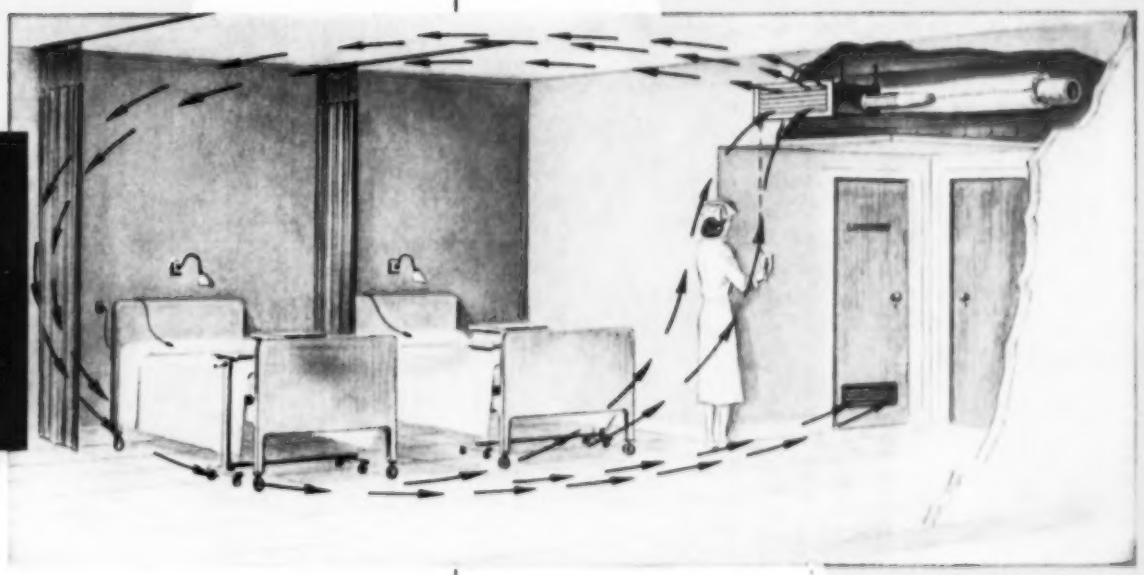

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You will find these units ideally suited not only for hospitals, but also for hotels, offices and similar installations—in new as well as old buildings.

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Adjoining Floors... Same Heavy Traffic On Both

Badly Worn, Replaced In 8 Years

Like New After 12 Years

WHY?

Plain Concrete

MASTERPLATE "Iron-Clad"

EVEN the hardest *stone* aggregate used for producing a plain concrete floor surface is brittle. Being brittle, stone fractures under the impact of traffic and breaks out of the surface. Pitting and rutting follow.

Iron is malleable. Used as the aggregate in a concrete floor surface it "gives" under traffic, producing a floor with great wear-resistance.

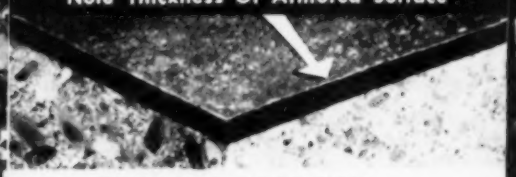
A thick surface of Masterplate* — installed on fresh concrete as shown below — is 4-6 times more wear-resistant than the best plain concrete floor . . . is spark-safe, corrosion-resistant, non-dusting, easy-to-clean, non-slip and economical. Non-colored and colored. For new floors and resurfacing old concrete floors.

Full information on Masterplate and "see-for-yourself" demonstration kit supplied on request . . . without cost or obligation.

* Masterplate . . . is the *only* material that will produce the Masterplate "iron-clad" concrete floor with its outstanding service advantages . . . because it is scientifically graded metallic aggregate — free from non-ferrous metal particles, oil, grease and soluble alkaline compounds — combined with the cement-dispersing agent, calcium lignosulfonate.

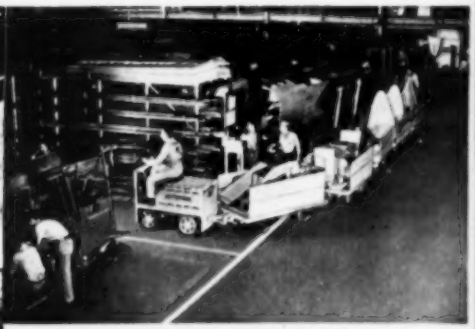
CRUCIBLE STEEL CO. OF AMERICA, Midland, Pa. Engr.—Private Plans. Gen. Contr.—Rust Engineering Co., Pittsburgh, Pa. Installed in 1948, Masterplate Floors giving good service.

SECTION OF A MASTERPLATE IRON-ARMORED FLOOR
Note Thickness Of Armored Surface



INSTALLED LIKE THIS...

APPLY | FLOAT | FINISH | CURE



DOUGLAS AIRCRAFT CORP., Long Beach, Calif. Archt.—Edward Cray Taylor & Ellis Wing Taylor. Contr.—Walker Construction Co.—Both of Los Angeles, Calif. After 12 years' service, Masterbuilt Floors in excellent condition.

the MASTER BUILDERS Co

Subsidiary of American-Marietta Company

CLEVELAND 3, OHIO — TORONTO, ONTARIO